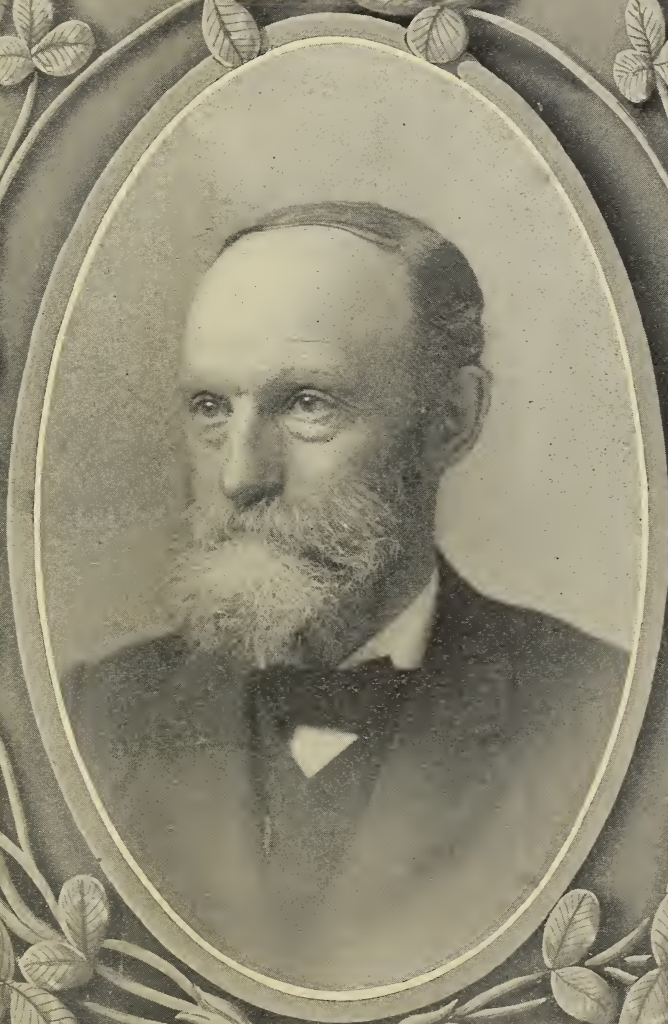


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

GLEANINGS

IN BEE CULTURE



THE A.I. ROOT CO.,
MEDINA, OHIO.

Western Edition

Entered at the Postoffice Medina, Ohio, as Second-class Matter

North Texas Beekeepers

will find Dallas the best point from which to purchase supplies. We have a carload of ROOT'S GOODS in stock, and sell them at Factory Prices. Don't forget that we can furnish anything in the way of field or garden seeds, plants, and poultry supplies. Large illustrated catalog for 1906 free on application. Mention *Gleanings* when you write. Wish to purchase Beeswax.

Texas
Seed and Floral Co.
Dallas, Tex.

SPRINGFIELD MISSOURI

We carry a
large and complete stock of

The ROOT'S 1906 BEE-SUPPLIES

All orders filled same day as received, thus insuring for our customers quick service, Springfield freight rates,

FACTORY PRICES

Send for seed catalog, bulb and plant catalog, Cyphers incubator catalog, The A. I. Root Co. bee-supply catalog

SPRINGFIELD SEED CO.
Springfield, Mo.

MR. TEXAS BEE-KEEPER

I would like to talk to you *personally*.

First, I want you to know about my supplies. I handle Root's Goods, of course; for I believe in giving my customers complete satisfaction—for that's *better* in the long run than low prices. My place of business is on the S. A. & A. P. Ry., just opposite the passenger depot, where I have built a warehouse 40×250 feet, and I have filled it full to the brim, for I handle Root's goods by the carload. This means I can furnish you supplies with the utmost promptness.

Then, too, I have installed a complete Weed-Process Foundation factory. I can turn out 500-lbs. a day. I can work your wax into foundation. In fact, my facilities in this line are not surpassed in Texas.

My can business is increasing by leaps and bounds. That is because of the quality of the goods. It will save you dollars to get my prices. Better write for them to-day.

Nothing pleases me better than for bee-keepers to make their headquarters at my office when at San Antonio. You are *always* welcome. I have fitted up my office with plenty of desks and chairs, with writing material, a reading-table, and all the bee journals on hand. Consider yourself invited.

If you haven't my catalog just drop a postal

After the 15th or 20th of April I can supply Red-clover and Golden Italian queens promptly.

Call or Address

Udo Toepperwein - San Antonio, Texas
1322 South Flores Street

C. H. W. Weber,

Headquarters for

Bee - Supplies.

**Distributor of Root's Goods Exclusive-
ly, at Root's Factory Prices.**

Give me your order for the BEST GOODS MADE. You will be pleased on receipt of them. You will SAVE MONEY by ordering from me. My stock is complete; in fact, I keep EVERY THING the BEE-KEEPER needs. CINCINNATI is one of the best SHIPPING-POINTS in the Union, PARTICULARLY IN THE SOUTH, as all freight now GOES THROUGH CINCINNATI. Satisfaction guaranteed. Send for descriptive catalog and price list. It will be mailed you promptly FREE of charge.

Two Per Cent Discount For Cash Orders Received in March.

I will buy your HONEY AND BEESWAX. I pay CASH ON DELIVERY; or, if you are in NEED OF HONEY, write for prices and state quantity wanted, and I will quote you the lowest price of any quantity wanted—in cans, barrel-lots, or car-lots—of EXTRACTED or COMB HONEY. I guarantee its purity.

QUEENS AND NUCLEI.

Let me book your order for queens. I breed the finest GOLDEN ITALIANS, RED-CLOVERS, CARNIOLANS, and CAUCASIANS. Can furnish NUCLEI beginning of June. For prices, refer to catalog, page 25.

I have in stock seeds of the following honey-plants: White and Yellow Sweet-scented Clover, Alfalfa, Alsike, Crimson Clover, Buckwheat, Phacelia, Rocky Mountain Bee-plant, and Catnip.

C. H. W. WEBER,

Office and Salesroom, 2146-2148 Central Ave.
Warehouse, Freeman and Central Avenue.

Cincinnati, - Ohio.

Honey Market.

GRADING-RULES.

FANCY.—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel-stain or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

TOLEDO.—The market on comb honey has been better for the past two weeks than it has any time during the season. Prices are firm on account of the scarcity. We are getting 15 and 16 for fancy white clover; 14 and 15 for No. 1, and 13 and 14 for amber; buckwheat, 13. Extracted honey is in good demand at the following prices: White clover in barrels, $6\frac{1}{2}$ to 7; amber, $5\frac{1}{4}$ to $5\frac{1}{2}$. Cans, every grade, from 1 to $1\frac{1}{2}$ ct. higher. Beeswax is firm, and in good demand at 28 and 30. The above are our selling prices, not what we pay.

GRIGGS BROTHERS,

Feb. 19. 521 Monroe St. Toledo, Ohio.

PHILADELPHIA.—The condition of the honey market is much more firm than it was a year ago at this time, with much less on the market. Usually at this time of the year bee-men wake up to realize that they may carry their honey over and send it to the market to be sold at any price rather than hold it. At the present time, the market is fairly well cleaned up. We quote: Fancy white comb honey, 16 to 17; amber, 13 to 14; extracted white clover, 7 to 8; amber, 6 to 7; beeswax firm, 28. We are producers of honey, and do not handle on commission.

WM. A. SELSER,

Feb. 19. 10 Vine St., Phila., Pa.

CINCINNATI.—At the present time the demand for honey is quiet; however, we fully believe the near future will bring better reports, since all indications point to a prosperous season. Continue to quote amber extracted honey in barrels at $5\frac{1}{4}$ to 6; fancy white extracted, at $7\frac{1}{4}$ to $8\frac{1}{2}$, in crates of two 60-lb. cans. Comb honey is moving slowly at $13\frac{1}{2}$ to 15, according to the quality. The above are our selling prices of honey, not what we are paying. Beeswax, choice bright yellow grade, is wanted at 30 cts. delivered here.

THE FRED W. MUTH CO.,

Feb. 19. 51 Walnut St., Cincinnati, O.

ATLANTA.—Honey market is at a standstill with us, and there will be very little doing till the new crop begins to move. We quote: fancy white, $12\frac{1}{2}$ to 14; No. 1, 10 to 11. Beeswax firm at 30 for No. 1 stock.

JUDSON HEARD & Co.,
Atlanta, Ga.

Feb. 19.

CHICAGO.—There is not much doing in our line of business, the volume not being equal to this season in recent years; yet there is not much change in prices, and we therefore refer to last report as representing present market.

R. A. BURNETT & Co.,

Feb. 19. 199 South Water St., Chicago, Ill.

BOSTON.—The demand is very good for new honey, fully equal to the supply, and prices are firm at 16 for fancy, down to 15 for No. 1 stock with practically no No. 2 to offer. Old honey with good supply is almost at a standstill, nominal prices. Strained honey, fancy white, 8; light amber, 6 to 7.

BLAKE, SCOTT & LEE,

Feb. 19. 31-33 Commercial St., Boston, Mass.

ST. LOUIS.—Since our last our honey market has not undergone any change. The demand for comb and extracted honey is very limited. We quote as follows: Fancy white comb honey, 13 to 14; No. 1, 12 to 13; amber, 11 to 12; extracted, California light amber, 6 to $6\frac{1}{2}$; Spanish needle, $6\frac{1}{2}$ to 7. Southern, in barrels, $4\frac{1}{4}$ to $4\frac{1}{2}$; in cans, 5 to $5\frac{1}{2}$. Beeswax, 29.

R. HARTMANN & Co.,

Feb. 19. 14 So. Second St., St. Louis, Mo.

SCHENECTADY.—There is but little comb honey remaining in our market; and as there is always more or less demand during the Lenten season we would advise producers who may still have some stock on hand to forward the same without delay. We quote fancy white, 14 to 15; No. 1, 14; No. 2, 12 to 13; buckwheat, 11 to 12; extracted light, $6\frac{1}{2}$ to 7; dark, 6 to $6\frac{1}{2}$.

Feb. 20. CHAS. McCULLOCH, Schenectady, N. Y.

FOR SALE.—Fine alfalfa honey in 60-lb. cans. Send for sample and prices.

DADANT & SONS, Hamilton, Ills.

FOR SALE.—125 lbs. buckwheat at 11 cts. This is the last of our comb. Water-white extracted, $8\frac{1}{2}$ cts.; amber, 7 cts. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—378 bbls. Mexican honey; 98 bbls. Cuban honey; 67 bbls. Southern honey. Special prices and samples sent upon request.

STROMEYER & METZEL, Philadelphia, Pa.

FOR SALE.—Superior grades of extracted honey for table use. Prices quoted on application. Sample, 10 cts. to pay for package and postage.

O. L. HERSHISER, 301 Huntington Av., Buffalo, N. Y.

BEE SUPPLIES.

We handle the finest bee supplies, made by the W. T. FALCONER MFG. CO., Jamestown, N. Y. Big Discounts on early orders, let us figure with you on your wants.

MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

THE FRED W. MUTH CO.,

51 WALNUT ST.,

CINCINNATI, OHIO.

FOR SALE.—Finest quality new-crop California water-white, white-sage, and light-amber honey in 60-lb. tins, two in a case; new cans and new cases. Write for prices and samples, and state quantity you want.

HILDRETH & SEGELKEN, 82 Murray St., N. Y. City.

WANTED.—Fancy clover extracted honey. Send sample and quote lowest price.

J. E. CRANE & SON, Middlebury, Vt.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity. R. A. BURNETT, 199 South Water St., Chicago, Ill.

WANTED.—Fancy white comb honey, also extracted honey in barrels. Send samples, and name best price delivered here. GRIGGS BROS., Toledo, Ohio.

WANTED.—Clover and basswood extracted honey; also No. 1 amber honey. Send sample, and state quantity and price, delivered at Preston.

M. V. FACEY, Preston, Fillmore Co., Minn.

WANTED.—Comb and extracted honey. State quality, quantity, and price.

JUDSON HEARD & CO., Atlanta, Ga.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.

HILDRETH & SEGELKEN, 265-267 Greenwich St., New York.

WANTED.—We will be in the market for comb honey in both local and car lots, and parties having same to sell or consign will do well to correspond with us.

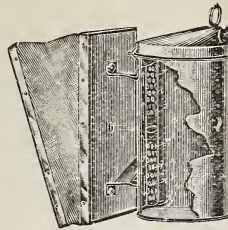
EVANS & TURNER, Columbus, Ohio.

WANTED.—A case of two 60-lb. cans extracted honey (1906 crop) of each variety or source from every State in the U. S.; also from Canada, Mexico, West Indies, and other accessible countries. With each lot is required a certificate guaranteeing absolute purity of the honey, and gathered from the source named. Exceptional care must be taken to have the honey well ripened, of good representative color from source named. The honey should be extracted from clean, new combs free from pollen. An extra price of about 2 cts. per pound will be paid for such honey, or we will arrange, if desired by any, to supply those co operating and furnishing sample shipments, with ¼-lb. samples of each variety secured, labeled with name of producer, year, and source of honey. We expect to secure at least sixty varieties of American and foreign honeys. Do not ship, but advise us what you can furnish, and on what basis.

THE A. I. ROOT CO., Medina, Ohio.

The Danzenbaker Twentieth Century Smoker

Awarded Highest Prize
A GOLD MEDAL
at the World's Fair
St. Louis, 1904



**UP-TO-DATE.
STRONGEST,
COOLEST,
CLEANEST,**

It has a side grate that strengthens the fire-cup, and holds a removable metal and asbestos lining that keeps it cool adding to its durability. It has no valves to get out of order or snout to clog with soot.

Every Thing Guaranteed "Root Quality."

ALL THAT IS CLAIMED.—The General Manager of the National Bee-keepers' Association says:

I have given your Twentieth Century a thorough trial. For convenience in lighting, durability, and long time one filling will last and give ample smoke, I find it all you claim. In the spring I shall want several. I always want the best. N. E. FRANCE, Platteville, Wis.

SURPASSES ALL OTHERS.—"After giving the Danzenbaker Twentieth Century Smoker several trials, can say it surpasses all smokers it has been my liberty to try; it will not go out until fuel all consumed, and it produces a cool smoke, a feature very necessary in any first-class smoker." Grant Stanley, Nisbet, Pa.

Prices: By mail, \$1.25; three, \$3.25.

By express or freight, one, \$1.00; three, \$2.50.

For further particulars, see Dec. 15th Gleanings, page 1370; sent free with price list.

F. DANZENBAKER, MIAMI, FLORIDA

Chas. Israel & Brothers
486-490 Canal St., New York.

Wholesale Dealers and Commission Merchants in

Honey, Beeswax, Maple Sugar and Syrup, etc.

Consignments Solicited. Established 1875.



Your Spring Help

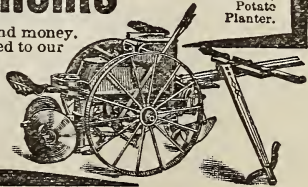
What kind of help will you have this spring. Will you do your work the old way with many men and much expense, or employ the time-saving, laborlessening and money-making

IRON AGE Implements

These famous tools double each man's capacity—saving time and money. Our new No. 25 Fertilizer Distributor attachment may be applied to our famous No. 6 combined tool, or to our No. 1 Double Wheel Hoe as is the case with the Seed Drill attachments. This labor saving implement and the Iron Age (Improved Robbins) Potato Planter are fully described in "Iron Age" a book which should be in the hands of every gardener and farmer who would be more successful. Sent free.

BATEMAN MFG. CO., Box 120, Grenloch, N. J.

Iron Age
(Improved
Robbins)
Potato
Planter.



Western Seeds for Western Planters

Corn, English Blue Grass, Oklahoma Dwarf Broom Corn, Hungarian Brome Grass and full line Garden, Flower and Field Seeds. Write NOW for our 1906 Catalog. Free by mail. Address **Kansas Seed House, Lawrence, Kansas,** or **Colorado Seed House, Denver, Colo.,** or **Oklahoma Seed House, Oklahoma City, Okla.**

Seeds for Farm and Garden. Alfalfa, Macaroni Wheat, Russian Speltz, Millet, Kaffir

Gleanings in Bee Culture

Devoted to Bees, Honey, and Home Interests

E. R. ROOT
Editor

A. I. ROOT
Editor Home Departments

H. H. ROOT
Asst. Editor

Department Editors:
DR. C. C. MILLER, J. A. GREEN, PROF. A. J. COOK, J. E. CRANE,
LOUIS H. SCHOLL, G. M. DOOLITTLE, W. P. ROOT.

J. T. CALVERT, Business Manager

A. L. BOYDEN, Advertising Manager

Circulation 30,000. Reaches every State and 60 foreign countries.
Established in 1873. Sixty-four pages. Semi-monthly.
Published by The A. I. Root Company, Medina, Ohio, U. S. A.

Terms---\$1.00 per annum; 2 years, \$1.50; 3 years, \$2.00; 5 years, \$3.00, in advance.

Postage is Prepaid by the publisher for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, Canada, and Mexico. For all other countries in the Postal Union add 48 cents per year for postage.

Change of Address.—When a change of address is ordered, both the new and the old address must be given. The notice should be sent one week before the change is to take effect.

Discontinuances.—The journal is sent until orders are received for its discontinuance. We give notice just before the subscription expires, and further notice if the first is not heeded. Any subscriber whose subscription has expired, wishing his journal discontinued, will please drop us a card at once; otherwise we shall assume that he wishes his journal continued, and will pay for it soon. Any one who does not like this plan may have it stopped after the time paid for it by making his request when ordering.

How to Remit.—Remittances should be sent by Draft on New York, Express-order or Money-order, payable to order of THE A. I. ROOT COMPANY, MEDINA, OHIO. Currency should be sent by Registered Letter.

Agents.—Representatives are wanted in every city and town in the country. A liberal commission will be paid to such as engage with us. References required.

Foreign Subscription Agents

Foreign subscribers can save time and annoyance by placing their orders for GLEANINGS with any of the following authorized agents, at the prices shown:

Paris, France. E. BONDONNEAU, 142 Faubourg St. Denis. *Per year, postpaid, 5¼ fr.*

Kingston, Jamaica. HOOPER BROS., 20 Orange St. *Per year, postpaid, 5/6.*

Goodna, Queensland. H. L. JONES. Any Australian subscriber can order of Mr. Jones *Per year, postpaid, 5/6.*

Dunedin, New Zealand. ALLIANCE BOX CO., 24 Castle St. *Per year postpaid, 6/.*

Other names will be added from time to time.

THE A. I. ROOT CO., Medina, Ohio, Publisher.

Find enclosed.....for which please send me Gleanings in Bee Culture.....months, and.....as per offer.....
Please continue sending Gleanings until otherwise ordered.

NAME.....

POSTOFFICE.....

COUNTY..... STATE.....

DATE..... If you want Gleanings discontinued at expiration, check here ()

Spring Management

of the right kind lays the foundation for a crop of honey, and **ADVANCED BEE CULTURE** covers that feature of bee-keeping most completely. It begins with taking the bees from the cellar, showing how to avoid the "mixing" that comes from improper management; then how to protect them thoroughly at the small cost of only **FIVE CENTS** a hive for both material and labor.

This protection not only enables the bees to rear more brood, but saves it from destruction in any cold

snap that may follow, thus greatly increasing the number of workers that will be ready when harvest comes.

If you have never tried spring protection, just try it on a few hives this year and note the results. Remember, too, that this is only one point—there are hundreds in the book that are equally helpful.

Price, \$1.20 postpaid; or the Review one year and the book for only \$2.00.

W. Z. Hutchinson, Flint, Mich.

P. S.—Each new subscriber for 1906 will receive, free of charge, any back numbers of 1905 that may still be on hand. At present I can send a complete set excepting the January, February, and April issues. March is getting pretty low. As long as they last, however, any numbers that are left will be sent free.

HERE'S YOUR CHANCE

to win a prize by doing a little work in
obtaining subscriptions for *Gleanings*
in our Second Subscription Contest.

Last contest **EVERY** contestant that sent in more than **ONE** subscription obtained a prize. It will doubtless be so in this contest, so that besides the regular commission you will receive a prize that will more than pay any effort made.

Twenty-five Prizes!

(Variety of queen to be winner's selection)

First Prize \$10.00 queen
Second Prize 7.50 queen
Third Prize 5.00 queen

Fourth Prize 3.00 queen
Fifth Prize 2.00 queen
6th to 15th Prize One cloth-bound A B C
16th to 25th Prize One Junior Corneil smoker

Conditions!

FIRST.—That subscriptions to be entered in this contest are to be obtained as results of work between February 15 and July 1, 1906.

SECOND.—To be eligible to any one of the first fifteen prizes, contestant must have at least five yearly subscriptions, or their equivalents, to his credit.

THIRD.—That yearly subscriptions may be either new or renewal taken at our regular rates. Two trial subscriptions (new names, six months) are equivalent to one year's subscription.

FOURTH.—That subscriptions can be sent in any time, but must be plainly marked "For Second Subscription Contest."

CUT HERE

Gleanings in Bee Culture

Subscription Contest Department.

Date

GLEANINGS IN BEE CULTURE, Medina, Ohio:

Please send agents' terms and enter my name as contestant in Second Subscription Contest. Send to my address at proper time, advertising matter which will aid me in obtaining subscriptions. I have read conditions and agree to them.

Name

P. O.

I can use sample copies of *Gleanings*.

State

CONTENTS OF THIS NUMBER.

MARKET QUOTATIONS.....	266	Chambers' Cell-starting Device.....	293
STRAY STRAWS.....	275	Poultry.....	295
EDITORIAL.....	277	Bee-hunting.....	296
Thickness v. Length and Breadth of Sections.....	277	HEADS OF GRAIN.....	297
A. I. Root: the Man and His Work.....	278	Early v. Late Putting of Bees in the Cellar.....	297
Betsinger and His wire-cloth Separator.....	278	How to Prevent Bees Crawling up Trousers Legs.....	297
Danger of Starvation this Spring.....	279	Questions Concerning Buying of Nuclei.....	298
Methods of Carrying Bees into and out of Cellars.....	279	Apiary Under Apple Blossoms.....	298
PICKINGS FROM OUR NEIGHBORS' FIELDS.....	281	Preventing Swarming—One Colony over Another.....	298
GLEANINGS FROM THE PACIFIC COAST.....	281	Successful Bee-keeping on a City Lot.....	299
CONVERSATIONS WITH DOOLITTLE.....	283	Breaking the Record on Honey-eating.....	299
FANCIES AND FALLACIES.....	285	Wintering Colonies between Sawdust Walls.....	300
GENERAL CORRESPONDENCE.....	286	Pollen-gathering in January.....	300
Taking Our Bees from the Cellar in the Spring.....	286	Why the Honey Candies.....	300
When to Set the Bees out in the Spring.....	287	A Question.....	303
How Can We Secure more Honey of Best Quality.....	288	Starters for Wired Frames.....	301
If I were to Start Anew in Bee-keeping.....	288	HIGH-PRESSURE GARDENING.....	301
Work in the Apiary.....	229	SPECIAL NOTICES.....	327

INDEX TO ADVERTISEMENTS.

Banking by Mail.		Comb Foundation		Publishers, Agricultural-paper.	
Savings Dep. Bank Co.....	314	Dodant & Son.....	Back Cover	Southern Fruit Grower.....	273
Bee Books.		Gus Dittmer.....	321	Publishers, Bee-Journal	
A. J. Cook.....	323	Fences.		W. Z. Hutchinson.....	269
W. Z. Hutchinson.....	269	Brown Fence & Wire Co.....	313	Modern Farmer & Busy Bee.....	313
Bee Smokers.		Coiled Spring Fence Co.....	308-313	The A. I. Root Co.....	268-269
T. F. Bingham.....	323	Kitelman Bros.....	313	Geo. W. York & Co.....	273
F. Danzenbaker.....	267	Page Woven Wire Fence Co.....	313	Publishers Magazines.	
Bee Supplies.		Honey-buyers.		Frank Munsey.....	271
Bee & Honey Co.....	325	See page.....	270-271	Publishers, Poultry-paper.	
J. H. M. Cook.....	323	Household Specialties.		R. R. Fisher.....	319
W. T. Falconer Mfg. Co. Back Cover		Co-operative Society.....	310	The Howard Pub. Co.....	314
Geo. E. Hilton.....	323	The D. Co.....	273	Inland Poultry Journal.....	319
M. H. Hunt & Son.....	272	Home Instructor.....	273	Ohio Poultry Journal.....	319
Kretschmer Mfg. Co.....	323	Joseph Horne Co.....	305	The Poultry Gazette.....	319
Leahy Mfg. Co.....	328	J. W. Quilling.....	310	Poultry Item.....	319
G. B. Lewis Co.....	274	A. L. Rice.....	309	Seeds and Trees.	
Marshfield Mfg. Co.....	323	Stromberg Carlson Tel. Mfg. Co.....	309	W. F. Allen.....	317
Fred W. Muth Co.....	266	Incubators		Miss Ella V. Baines.....	317
Walter S. Pouder.....	320	American Incubator Co.....	319	Francis Brill.....	319
Page & Lyon.....	321	Banta-Bender Mfg. Co.....	307	W. Atlee Burpee & Co.....	315
A. H. Reeves.....	325	Buckeye Incubator Co.....	308	Cal'ander Cactus Co.....	315
St. Croix Valley Hon. P. Ass'n.....	324	Cycle Hatcher Co.....	307	Chattanooga Nurseries.....	318
The Root Co., Syracuse, N. Y.....	272	Chas. A. Cyphers.....	307	M. Crawford Co.....	318
The Root Co., St. Paul, Minn.....	322	Cyphers Incubator Co.....	308	Darling & Beahan.....	315
C. M. Scott & Co.....	322	M. M. Johnson Co.....	308	L. J. Farmer.....	318
W. D. Soper.....	322	Leahy Mfg. Co.....	323	Flansburgh & Potter Co.....	318
I. J. Stringham.....	325	Manson Campbell Co., Ltd.....	307	J. Roscoe Fuller & Co.....	318
White Mfg. Co.....	322	J. W. Miller Co.....	307	Gage County Nurseries.....	318
C. H. W. Weber.....	265	Prairie State Inc. Co.....	308	Gardner Nursery Co.....	317
A. G. Woodman Co.....	322	Racine Hatcher Co.....	307	German Nurseries.....	315
York Honey & Bee Supply Co.....	321	Reliable Incubator Co.....	307	E. C. Green & Son.....	316
Bees and Queens.		Geo. H. Stahl.....	308	Green's Nursery Co.....	316
George W. Barnes.....	325	Machinery.		Hart Pioneer Nurseries.....	317
Rev. J. G. Baumgaertner.....	325	The Deming Co.....	308	D. Hill.....	316
F. J. Colahan.....	325	Bateman Mfg. Co.....	267	R. M. Kellogg Co.....	316
A. Gomes Casseres.....	321	Electric Wheel Co.....	313	Iewel Nurseries.....	315
Etablissement d'Apiculture.....	325	Lyons Engine Co.....	312	Miss C. H. Lippincott.....	318
Chas. Koepen.....	324	Manson Campbell Co.....	309	J. T. Lovett.....	316
H. M. Parker, Jr.....	325	Medina Concrete Co.....	313	McAdams Seed Co.....	318
Robert B. McCain.....	324	F. E. Myers & Bros.....	309	L. H. Mahan.....	318
W. H. Laws.....	324	Rochester Spray Pump Co.....	308	W. A. Mason.....	318
W. T. Crawford.....	324	Seneca Falls Mfg. Co.....	310	L. I. May.....	315
The Jennie Atchley Co.....	321	Wilson Bros.....	308	National Plant Co.....	317
A. E. Titoff.....	324	Miscellaneous.		Geo. W. Paik.....	319
W. H. Rails.....	325	H. H. Aultfather.....	273	Louis Roesch.....	318
Roselawn Apiary.....	324	F. W. Bird & Son.....	314	W. N. Scarff.....	317
H. C. Simpson.....	325	Co-operative Society.....	310	Schidler Bros.....	318
J. W. Taylor.....	324	Hardware Specialty Co.....	313	Sheerin's Wholesale Nurseries.....	318
Henry Shaffer.....	325	Chas. H. Manley.....	323	R. H. Shumway.....	315
Victor-Knolle Apiary Co.....	325	Seaboard Air Line R. R.....	273	Storrs & Harrison Co.....	317
Daniel Wurth.....	324	Poultry Supplies.		Wood Co.....	319
Buggies.		G. E. Conkey & Co.....	319	Yenn Bros.....	318
Anderson Mfg. Co.....	310	B. H. Greider.....	319	Wants and Exchanges.	
Elkhart Carriage Co.....	311	Willett's Preserver Co.....	308	See page.....	226-227
Ohio Carriage Mfg. Co.....	311				
Progressive Vehicle Mfg. Co.....	310				
Union Buggy Co.....	310				

TRY IT AT MY EXPENSE --- NOT YOURS!

If you are not a reader of MUNSEY'S MAGAZINE I want you to become one. I want you to know what it is like, and to know at my expense, if the magazine does not suit you. If it does suit you, and the price is right, you will naturally wish to pay for it. There isn't much in the theory of getting something for nothing.

MUNSEY'S MAGAZINE is worth your knowing. It was MUNSEY'S MAGAZINE that led off a dozen years ago in the low price for magazines—ten cents a copy and one dollar by the year. It was the fight we had with a giant News Company monopoly that made MUNSEY'S MAGAZINE possible, and that blazed the way for all other publishers whose magazines are issued at the price of MUNSEY'S. But this is too big and too graphic a story to be told in this advertisement.

MUNSEY'S MAGAZINE

Has the biggest circulation of any standard magazine in the world—much the biggest. And it has made it and held it solely on its merits. In a dozen years we have not spent a dozen cents in advertising. We have no agents in the field—not an agent anywhere—we have given no premiums, have clubbed with no other publications, and have offered no inducements of any kind whatsoever. We have made a magazine for the people, giving them what they want, and giving it to them at a right price—that's all. And the people have bought it because they like it and because they could buy it at a right price. Our object in advertising now is to reach a few hundred thousand new readers—people who are not now taking MUNSEY'S MAGAZINE.

A Ten Thousand Dollar Magazine For Ten Cents.

Though there are a good many three dollar and four dollar magazines in America, there is none better than MUNSEY'S, whatever the price—not one. There is no higher grade magazine, there is none better printed or printed on better paper, and there is none better or more carefully edited—none better written, and few, if any, so interesting. It costs in round numbers about *ten thousand dollars a number* to go to press on MUNSEY'S MAGAZINE. That is to say, if only one copy were printed it would cost ten thousand dollars, but spreading this cost over our entire edition of *750,000 copies*, the amount gets down very thin on each individual copy.

When I first made this price, a dozen years ago, everybody said it was impossible—we couldn't live—said we were bound to fail. We did live, however, and today are publishing a *thousand tons* of magazines a month, which is fifty car-loads. This is more than three times as many magazines as were issued by all the publishers combined of the entire country when I came into the business.

It is because I am so sure of the merits of MUNSEY'S MAGAZINE, and so sure it will please you, that I am now offering to send it to you without any money in advance, and without any money at all if it does not please you. I can afford to take this chance, which, as I see it, is a very small chance, because I believe thoroughly in the rugged honesty of the people. The percentage of dishonesty among the citizens of America is far too small for consideration in a business proposition of this kind.

There is no trick in this offer—no hidden scheme of any kind whatsoever. It is a simple, straightforward, business proposition which will cost you nothing unless you wish it to.

The All-Story Magazine Also Free

I will not only send you MUNSEY'S MAGAZINE, as stated above, but will send you three months free, in addition, THE ALL-STORY MAGAZINE, which is another of our publications. I add this other magazine for two reasons. First, that you may have the choice of two magazines, and second, with the thought that you may want both.

If this proposition interests you, and I hardly see how it could be made more to your interest, kindly fill out the coupon in this advertisement and mail it to me, and you will get the magazines as stated herein.

FRANK A. MUNSEY, New York:

114

You may enter my name for one year's subscription to Munsey's Magazine, for which I agree to pay you one dollar (\$1.00) at the end of three months, providing I find the magazine to be what I want.

In the event that I do not care for the magazine, I will so notify you at the end of the three months, in which case I shall owe you nothing.

It is further agreed that in connection with this subscription you are to send me The All-Story Magazine free for three months, and that I am to have the option of changing my subscription, if I so desire, from Munsey's Magazine to the All-Story Magazine for the balance of the year.

Name _____

City _____

Date _____ 1906 _____ State _____

FRANK A. MUNSEY, 175 Fifth Avenue, NEW YORK

TWO BEE-KEEPERS

March 1st, 1906.

The A. I. Root Co., Syracuse, N. Y.

Gentlemen:—Inclosed find our check in payment for the inclosed order of goods. You may ship same at your convenience. We wish to be in readiness for the season when it opens, and wish you would not delay the order too long. We now have time to get sections made and filled with foundation, which we can not do when spring work opens. Bees are wintering well so far, and we expect them to come out in good shape.

Respectfully, I. R. SUCCESS.

June 20th, 1906.

The A. I. Root Co., Syracuse, N. Y.

Gentlemen:—Send us immediately by express C. O. D., the goods called for on the inclosed order-sheet. Do not delay. Delay will cause us considerable loss. We ought to have sent this order in long ago. The season has opened fine and we have no hives, sections, or foundation on hand. Expect a swarm to come out at any time, and no hives on hand for new swarms. Hustle the goods off.

Respectfully,

I. B. WATEING.

Which column shall we place your favor or order?

We have a large stock of goods on hand and shall be pleased to receive your order now or later. Discount this month, 2 per cent

The A. I. Root Co., Syracuse, N. Y.

HIVES - HIVES



Now is the time to place your order for the hives you will need this year. By getting them now you will save the discount, and can have them nailed and ready for your bees in the spring. . . .

We should like to quote you prices in any quantity on the following:

The Root Chaff Hive

The best chaff hive made

The Danzenbaker Hive

The comb-honey hive

The Root Dovetailed Hive

Standard size and extra quality

~~~~~  
Send for Catalog

**M. H. HUNT & SON, BELL BRANCH, MICH.**

We Sell Root's Goods in Michigan



AMERICAN BEE JOURNAL—Published Weekly  
Established 1861.

**WEEKLY**

**American Bee Journal & Gold Fountain Pen and Novelty Pocket-Knife**

All 3 for ....  
**\$2.75**

**HOWARD M. MELBEE,**  
HONEYVILLE, O.

**NOVELTY POCKET-KNIFE**  
(Name and address on one side—Three Bees on the other side.)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife. The Novelty is in the handle, made of indestructible celluloid, transparent as glass. Underneath the celluloid, on one side is name and address of owner, and on the other side Queen, Drone and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality.

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it.

How to Get this Valuable Knife.—We send it postpaid for \$1.25, or club the Novelty Knife and the Weekly American Bee Journal for one year—both for \$2.00. (Allow two weeks for Knife order to be filled.)

**SOLID GOLD FOUNTAIN PEN**

Finally, we have found a good Fountain Pen that is reasonable in price. The manufacturers of this Pen say that if you pay more than \$1.25 for other fountain pens, it's for the name. Absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Directions and Filler accompany.

We send this Gold Fountain Pen postpaid for only \$1.25, or for \$2.00 we will send it and the Weekly American Bee Journal for a whole year.

Sample copy of the Weekly American Bee Journal free; trial trip of 3 months (15 copies) for 20c; regular yearly price, \$1.00. Address all orders to

**GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.**







Worker



Queen



Drone

AMERICAN BEE JOURNAL—Oldest Bee-Paper  
in America.

## COOK BOOK FREE!

one copy of the **American Family Cook Book.**  
cover to cover and the only Magazine published that lists up-to-date **Dress Patterns** at 5 cents each.  
Good stories. Stamps taken. **Agents Wanted.**

To each lady who will send 25 cents for one year's trial subscription to **THE HOME INSTRUCTOR, Quincy, Illinois**, we will send free, postpaid,

## GOLDEN Opportunities!

**E**XIST in the South, and the Seaboard Air Line's monthly magazine will point them out to you. If you are thinking of changing your location, engaging in other business, want a winter home, a summer home, or a place for all-the-year-round residence, want an orange grove, a banana plantation, a pineapple grove—in fact, anything, and want it in Virginia, the Carolinas, Georgia, Alabama, or Florida, the magazine will assist you.

Sent free on request, together with other handsomely illustrated literature descriptive of the South and its wonderful resources and progress.

**J. W. WHITE**

Gen. Indus. Agt., Portsmouth, Va.

**Seaboard Air Line Railway**

## LADIES WANTED

The D. Co. 715-725 S. W. St. Canton, O.

### ON SALARY

for a large established firm to solicit and demonstrate a modern toilet soap, distinctly different from all other soaps. No traveling. Easy sales everywhere. Write for particulars and free sample.

## Fruit Growers and Farmers.

Thousands of the best fruit-growers and farmers read the **Southern Fruit Grower** because they find it the most helpful fruit paper published. Contains 24 to 40 pages of valuable fruit and farming information every month. 50c a year. Send 10c and 10 names of fruit growers and get it 6 months on trial. Sample free.

The Southern Fruit Grower, Box 1, Chattanooga, Tenn.



## Free! Free!

Our catalog of berry-plants, 32-quart berry crates and baskets. Special prices for Feb'y orders.

**H. H. Aultfather**  
Box 3 Minerva, O.



# *The Survival Of The Fittest Lewises Beware It Always Fits*

Did you ever stop to consider why you should insist on Lewis Goods in preference to any other?

At the LEWIS FACTORY the greatest pains are taken to see that all goods are made scientifically correct.

Perfect matching, necessary bee-spacing, accurate dovetailing, correct grooving, and carefully polishing, besides a thousand and one other important details of manufacture are all brought to bear as a result of the thirty years of experience of the Lewis beware specialists.

Lewis Goods go together right. Why? Because they are right.

Every part is made to fit every other part, just like a watch.

Lewis hives and sections go together with a snap.

What a comfort it is to have bee-goods fit!

What bee-keeper can estimate the value of time and patience lost with poor goods that don't and won't go together accurately? Steer clear of them by ordering Lewis Goods.

You can't afford to take chances of not receiving full value for your money, even if the goods are ordered in the winter time. But now suppose it is swarming season, hives brimful of honey, bees are busy; you can't afford to tie up your bee industry, lose time, lose money, and have your peace of mind annoyed and patience tried by bothering with ill-fitting, inferior goods. Lewis Goods are necessary to your welfare and happiness.

Look for brand. Send for catalog to-day, if you haven't one.

There are a score of our agents besides ourselves who can furnish you with Lewis Goods at factory prices.

ENGLAND—E. H. Taylor, Welwyn, Herts.

CUBA—C. B. Stevens & Co., Havana.

C. B. Stevens & Co., Manzanillo.

CALIFORNIA—Paul Bachert, Lancaster.

The Chas. H. Lilly Co., San Francisco.

Colorado—R. C. Aikin, Loveland.

Ark. Valley Honey-producers' Ass'n, Rocky Ford

Colorado Honey-producers' Association, Denver.

Fruit Growers' Association, Grand Junction.

Robert Halley, Montrose.

ILLINOIS—York Honey & Bee Supply Co., Chicago.

Dadant & Son, Hamilton.

IOWA—Adam A. Clark, LeMars.

Louis Hanssen's Son, Davenport.

INDIANA—C. M. Scott & Co., Indianapolis.

MICHIGAN—A. G. Woodman Co., Grand Rapids.

MINNESOTA—Wisconsin Lumber Co., Faribault.

MISSOURI—E. T. Abbott, St. Joseph.

OHIO—Norris & Anspach, Kenton.

OREGON—The Chas. H. Lilly Co., Portland.

PENNSYLVANIA—Cleaver & Green, Troy.

TEXAS—Southwestern Bee Co., San Antonio.

UTAH—Fred Foulger & Sons, Ogden.

WASHINGTON—The Chas. H. Lilly Co., Seattle.

## **G. B. LEWIS CO.**

**WATERTOWN, WIS., U. S. A.**

# GLEANINGS

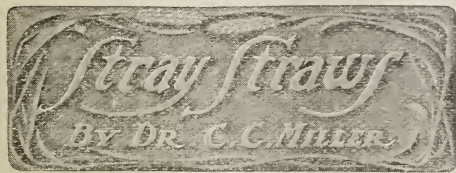
## IN BEE CULTURE

A Journal Devoted to Bees, Honey, and Home Interests  
Illustrated : Semi-monthly : One Dollar per Year  
Published by The A. I. Root Company, Medina, Ohio

Vol. XXXIV.

MARCH 1, 1906.

No 5



PROF. COOK thinks our nice section honey "would go like wildfire" on the European markets, p. 207. Pity we can't get a little wildfire into our own markets.

MR. ASPINWALL is a conspicuous example of persistent endeavor in one direction. If he ever reaches the goal of the non-swarming hive—and let us earnestly hope that he may—he will have richly earned the prize.

PHILIPPINE BEES presumably *Apis dorsata*, are said, p. 215, to build cells  $2\frac{1}{2}$  in. deep. If these are in combs with the usual midrib, the combs would be 5 in. thick. Is there not some mistake about this? Surely a cell  $2\frac{1}{2}$  in. deep would hardly be used to rear brood in.

HYBRIDS are spoken of, p. 201, as worse gluers than Italians. I don't remember ever seeing that mentioned before. Is it a fact? [I had always supposed it was generally conceded that hybrids were more inclined to propolize than pure Italians. I know ours used to be. If I am mistaken I shall be glad to be corrected.—ED.]

CARNIOLANS, according to *Muenchener Bztg.*, excel all others in working on red clover. The dry weather of the past season favored work on red clover, and the Carniolans appeared on it in full force, while the American red-clover stock did not visit it at all. [I should be inclined to think that there would be no difference between Carniolans and Italians. But this is sure: There are strains of either that greatly excel others of their own race on red clover.—ED.]

HONEY-COMB, says Dr. Bohrer, p. 220, "is of no value as food; and in many cases of stomach ailment it is a positive irritant." But say, doctor, is it not true that it is sometimes well to have things in food which have no nutritive value? and are not irritants sometimes a benefit in the intestinal tract? [It has been said that a shipload of horses out at sea ran out of hay. There were oats enough, but the horses did not do well. The captain finally ordered the carpenters to plane up some plank into fine shavings, and these were soaked in water and mixed with the oats and fed to the animals? The story goes that the horses from that time on began to thrive. Perhaps in this sense wax would not be an irritant.—ED.]

FREEZING is said to have killed a frog and some bees, p. 202. Are you sure it wasn't the thawing? A neighbor, one winter, had 200 bushels of apples in our cellar. They were frozen, and the freezing seemed to improve them. But they were thawed out very gradually. If thawed out rapidly they would have been ruined. [There is something in what you say. Two or three have told me since, that frogs frozen in ice will come to all right in the spring. In the case of the frog referred to by Mr. Pritchard, the animal in a solid cake of ice was brought into a warm room. The ice was melted as quickly as possible. I know what you say is true concerning apples, because I have seen this fact proven before my own eyes.—ED.]

G. M. DOOLITTLE, page 209, recommends farmer Jones to use the regular Langstroth hive. I wonder if farmer Jones knows what that is. He will hardly find it listed in any catalog. I am frank to say that I don't know just what is included in and excluded by the term "regular Langstroth hive," although it is a term in frequent use. Please tell me, Mr. Editor, what I would get from a manufacturer if I should order a "regular Langstroth hive." [When a customer specifies a Langstroth hive we make it a rule to



send him one based on Langstroth dimensions and which comes the nearest to being our standard. Some dealers would supply a ten frame, others an eight-frame. In some cases the hives would be dovetailed or lock-cornered, and others might be halved or lap-nailed. I presume that Doolittle had in mind the dimensions of the Langstroth hive and unspaced frame, the one used by Langstroth.—ED.]

JUST NOW Ohio seems to be the storm-center in the matter of trying to make the saloons obey the law, and it seems to be a dead set between the Governor and the mayors. The Governor says the saloons must be closed on Sunday, the mayors say no. Which whips? [Yes, our Ohio legislature is strongly temperance. The *Cleveland Leader* says, "All observers of conditions at Columbus agree that the General Assembly is honest. Ohio has not been so sure of the uprightness of any legislature in many years. They have proved their good faith by their works. . . . The reform outlook is good all along the line." It has just passed a search-and-seizure bill that will make it hot for the owners of speakeasies. Yesterday another bill passed the House that will very greatly broaden the scope of the district-option law now in force in our cities. There are bills pending against treating. Over and above all is a Governor who is most decidedly with the temperance people and for the enforcement of law.—ED.]

"IS IT POSSIBLE that bees assume a state of torpor that is about midway between that of true hibernation and the sleep of ordinary warm-blooded animals that are aroused at intervals of a few hours to be fed?" p. 203. I don't know whether the answer to that question is yes, or that the condition of bees in winter is simply that of sleep with stops for refreshment. At any rate, we know this, that there is a point, somewhere about forty-five degrees, at which bees show least activity and consume least food. Can we ever get beyond this? [There is a great deal concerning this subject, that has never been exploited. Granted that a cellar temperature of 45 seems to give the lowest consumption of stores, is it not a fact that bees in that cellar inside of their hives have a temperature of nearly blood heat? Taking all the known facts, and putting them all together, it is a little hard to deduct positive conclusions. But GLEANINGS proposes to keep at these experiments for several years. It has been so warm lately that we have not been able to do any thing in the way of subjecting bees to a lower temperature.—ED.]

"A BEGINNER" writes: "I quote from 'A few Points for Beginners,' in a manufacturer's circular: 'The honey-knife should be kept sharp, and immersed in hot water when not in use.' Now, I can sharpen it all right, but how am I to keep it hot from October to July? Contract with an electric-light plant, flouring-mill, or some other institution that has hot water always, to keep it in soak

for you. Or, don't stop using it during the time mentioned. If your wife is of the kind that keeps her husband constantly "in hot water," all you need to do is to keep the knife with you. [If these wives of ours did not keep us in "hot water" it might be the worse for us. But, joking aside, this question whether hot water should be used for heating a honey-knife depends largely on locality and partly on the honey. If the knife would work freely without the hot water, by all means dispense with the heat; but if it acts logy, bends or crushes the cells, even when the edge is keen, then the blade should be kept immersed in a pan of hot water. In California, when extracting the thick mountain sage, I believe it is generally customary to use a pan of hot water on top of a coal-oil stove. Two knives are used, to work to the best advantage. While one is doing the uncapping the other is heating. It is thus possible to use a hot knife by exchanging. But I have been in yards where bee-keepers say they know hot water is not necessary. But nevertheless it has always seemed to me that a pair of knives in a basin of hot water can not help doing better work than the same knives without the heat and the partial washing that they get; for all particles of wax clinging to the edge will melt off, leaving that edge free to do its best work.—ED.]

MR. EDITOR, you underrate the effort I made toward keeping pure Italian stock, and overrate the ease with which such a thing may be done, p. 201. For years I tried to keep pure stock; but I rise to remark that, in this locality, the yellow stock does not seem to run out the inferior blood nearly as fast as the inferior blood runs out the yellow stock. Please tell us how far you must travel from Medina before you strike any impure blood. [You once told me, doctor, if I remember correctly, that you made it a rule to buy two or three imported Italians a year so as to keep up a good grade of hybrids. Perhaps I misunderstood you. If I am not mistaken, your breeding stock for a year or two back has been hybrid, and with this stock you hybridized the whole yard. Now, if you had pursued the policy of the queen-breeders and many of the honey producers, like Mr. Alexander, for example, you could have Italianized the bees for miles around. You can go miles from here and not strike any hybrid blood. Sometimes in buying queens to sell again we are obliged to introduce a few untested into the hives until they can "freshen up" for another journey. It is these queens that will now and then show a sprinkling of hybrid or black blood. If you will this coming summer kill off all your one-year-old and two-year-old queens that are hybrid, and introduce Italians in their stead from some good pure breeder with a good record, you will go a long way toward Italianizing your whole locality. By keeping up that policy of continuous weeding out black or hybrid stock you will, within five years, have practically pure Italian stock within a radius of two



miles of each of your yards. I have seen that thing done so many times—that is, I have been in yards where it was done—that I am sure your locality would be no exception.—ED.]

MARY HINMAN ABEL, in *The Delineator* for January, gives glucose a good send-off as “a wholesome food,” “perfectly harmless,” and “a blessing,” and she seems to think it would be for the health of the nation if prejudice would give way and allow more of it to be used. All of this may be true of the chemically pure article which costs 10 or 20 cents a pound; but is it possible that Mrs. Abel has written the article without ever sampling the stuff that the public is consuming by the ton, and, mixed with a third or fourth of its weight of cane syrup, is sold in the groceries for 3 cents or so a pound? If she would take one good swig of some of the stuff on the market, and contemplate upon them for about two minutes, she might tell another story. [There are some whose taste is so blunt that they can not detect the brassy flavor in corn syrups; yet some of these people have just enough discrimination in taste so that, when they taste a honey different from what they have been accustomed, they declare that it is adulterated. Only yesterday a traveling man told me that he bought some honey in Cleveland that he knew was adulterated.

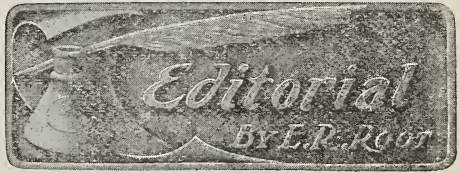
“How do you know?” I asked.

“Because it does not taste like the honey that I used to get on the old farm.”

On inquiring where he got it I soon discovered that he was eating logwood honey from Jamaica—a beautiful honey, white and well-flavored, but distinctly different in taste from clover or basswood. I told this traveling man that the pure-food laws of Ohio were rigidly enforced, and that any dealer in Cleveland or anywhere else in this State who sells adulterated honey would get into the clutches of the law almost instantaneously.—ED.]

PROF. BIGELOW, p. 233, wants facts from my experiences in answer to some questions. “Why do I think bees hear?” In hiving a swarm, if a few bees can be got to set up a call at the entrance, there is little trouble in getting the swarm to follow the call. A swarm once started to enter a hive into which I did not want them to go. I moved the hive to a new place, but a few at the entrance were making a call, and the swarm began to settle at the entrance. I put the hive on a wheelbarrow, and wheeled it some distance away. When I stopped, the swarm began to obey the call again. I trundled the thing around for some time; and whenever I stopped the flying bees began to settle. What but the sound could have attracted them? “What facts lead me to think that bees hear sounds inaudible to the human ear?” I have no facts; I read that long ago; if you know that it isn’t true, I am ready to change my belief. “What makes a swarm of bees cluster?” I don’t know. “Is the queen first to start the cluster?” Certainly not always. “If not, where does she come

in, and why?” With my bees she generally does not come in at all, because, while the swarm is clustering, she is crawling around with clipped wings somewhere near the hive. I think that, when a queen settles with a swarm, she is just as likely to be last as first. I don’t know why. I don’t mind at all, professor, exposing my ignorance to you; but I don’t like to have that aggravating editor gloating over it; so, please inform us more fully about the hearing of bees. [We know that the bee’s sense of smell is very acute, and how they will persistently cling to a bough or limb on which their sisters have been clinging. While not denying that the bees are influenced by the call that has been set up, yet they might follow that hive of bees around, being guided wholly by their sense of smell. Further than this, I will leave you and Dr. Bigelow to fight it out.—ED.]



#### THICKNESS VS. LENGTH AND BREADTH OF SECTIONS.

IN the last issue, on p. 205, our correspondent J. A. Green corrects me by saying the Root Co. advertises  $4\frac{1}{2}$  plain sections  $1\frac{3}{8}$  thick when I had said no such sections were in use. While my statement was not strictly correct, the actual facts are that we sell almost no  $1\frac{3}{8}$  plain by  $4\frac{1}{2}$  square. We catalog the  $1\frac{3}{8}$  and  $1\frac{1}{2}$  because I learn from our office we did have some calls for them.

I agree with our correspondent that a thin comb in a section is getting to be more and more popular among the bee-keeping fraternity; and this may account largely for the growing popularity of the  $4\times 5$  plain section  $1\frac{3}{8}$  thick. The  $4\times 5$  size is the only one of the plain sections  $1\frac{3}{8}$  thick that has very much of a sale. We can almost say that, practically, no other section of this thickness is sold of the no-beeway. At least this is literally true so far as our sales are concerned, although the catalog gives a different impression.

Mr. Danzenbaker, when he brought to our attention the  $4\times 5$  section, was very strenuous in his advocacy of a thin comb in sections which this size permitted. He even went so far as to claim that, if it did not hold a pound, rather than *thicken* the comb by a wider section he would prefer to make the section  $4\frac{1}{2}\times 5$ , leaving the comb the same thickness. I am at a loss to understand why there has not been more demand for the  $1\frac{3}{8}$  square plain section. Perhaps this discussion will start the ball a rolling in their favor.

## A. I. ROOT: THE MAN AND HIS WORK.

THE portrait on the outside cover page for this issue will be recognized by our older readers as that of their old friend A. I. Root. Its publication at this time will be as much of a surprise to the man who started this journal, and who for nearly half its career was its sole editor and proprietor, as to any of its readers. But we know we are satisfying an oft expressed wish on the part of many of our subscribers when we now formally introduce (if introduction be necessary) our senior editor as he looked about ten years ago. Since that time he has grown somewhat grayer, and otherwise shows more the advance of years. During the last twenty years, to a greater or less extent he has been "turned out to grass," as he says, by his sons and sons-in-law. Indeed, they all feel he has richly earned his rest, and that, if there is any value in his Home talks, he should be kept away from the distracting whirl of business, and husband his energies for the Home papers which have pleased and helped so many of our subscribers in years gone by.

For the last few years, at least, he and Mrs. Root have remained at Medina only a few months in the year, the rest of the time being spent at "the cabin in the woods" in Northern Michigan. Now that they have a new "cabin" we hope their winters will be spent in Florida, for neither of them can stand our Northern cold.

A. I. Root controls 51 per cent of the stock of The A. I. Root Co.; and while, as I have said, he is "turned out to grass" to a certain extent, yet he is kept posted as to all our policies and plans.

While he can not, necessarily, be familiar with every detail, yet no large plans or investments are entered into without his sanction.

It seems hardly necessary to describe A. I. Root's hobbies or his general characteristics. Almost any of our readers could do it just as well as one who has been associated with him all his life. But I may say this: He is a man of action, and must be given something to do or he will begin to pine. He often says he would rather "die in the harness," and I think we may truly say that, when he does pass from the scenes of this earth, it will be because the golden cord snaps, not because it withers up.

While he is "turned out to grass" he is giving his attention to gardening and rural pursuits in general, but, more than all else, to the thing that is nearest his heart, the salvation of souls. While some have objected to his writings relating to Christian conduct and our duty to our fellow-man, yet I think it is safe to say, judging from the string of letters bearing on this point, that 999 out of every 1000 of our readers are glad that he thus gives those plain Home talks that have been the means of bringing life and light to many. He contributes liberally to all the missionary societies of his denomination, and especially to the Anti-saloon League, which he believes to be the

most effective organized effort against the drink evil that was ever started. When a new temperance law is passed, or some further progress made to drive the dramshop further from our homes, or when some city begins to "put down the lid," his almost invariable exclamation is, "May the Lord be praised!" (I fancy he is saying it often these days.) He believes intemperance to be the chief cause of sin, crime, and graft in our cities, and that until we can drive the brewer and saloon keeper out of politics (as it looks now as if we might, here in Ohio at least), we shall not be able to make very much progress in civic righteousness.

In person A. I. Root is slightly under medium height, yet wonderfully wiry and active for one of his years (66). His walk is brisk and his movements alert. With all his malaria, chills, and cold, he has scarcely had a stiff joint nor a twinge of rheumatism. This has made it possible for him to be outdoors and enjoy to his fill the exhilaration of light exercise. How much his capacity to drink in the delights of outdoors has spared him for his work on the Home papers can only be surmised.

## MR. BETSINGER AND THE POSSIBLE FUTURE OF HIS WIRE CLOTH SEPARATOR.

WE learn with much regret that our old friend Mr. N. N. Betsinger is now sick at the Hospital of the Good Shepherd, Syracuse, N. Y., with but little chance for his recovery. And this reminds me that the Betsinger wire-cloth separator is just coming to be recognized as a device that will produce more and better comb honey than any separator or fence ever invented. Our old friend introduced this some eighteen or nineteen years ago; but, like some other good things, it was clear ahead of the times, and hence but little attention was paid to it. But Mr. S. D. House, Camillus, N. Y., has been testing it a number of years, and has demonstrated beyond a doubt (for I have seen his honey) that this separator produces more *strictly fancy* honey than any similar device hitherto offered for sale. He showed me case after case of his wire-cloth separated honey at random, every section of which would be considered extra fancy. It is easy to see how Mr. House has been able for a number of years back to carry off all the first prizes for comb honey at the Syracuse, N. Y., fair.

Mr. F. A. Salisbury, of Syracuse, N. Y., showed me the results of some experiments he had made. He selected several colonies of about equal strength. To some he gave ordinary fences, and to others wire cloth separators. He took off the honey from each lot, put them in the honey room, and when I stopped off at Syracuse last summer he asked me to say whether I could see any difference between the two lots of honey. I said, without hesitation, that one lot seemed to be all fancy, while the other seemed to be a fair grade of No. 1 and fancy.



"You are sure there is a difference between the two lots?" he asked.

"I am sure of it," I replied.

One lot, he said, was produced by wire-cloth separators, and the others with fences. "Then," said he, "I suggest you go home and figure on making the Betsinger wire-cloth separators in large lots, for they are rather expensive as now made by hand."

We have been figuring for some months, and have not yet discovered any plan whereby they can be made much more cheaply than now. But the difference in price on the honey produced with a wire-cloth separator will easily pay the excess of cost of the separator in one season.

I notice by the *American Bee Journal* that F. Greiner says it is his opinion that this wire-cloth separator, even if it is more expensive than other separators, is "enough better to justify the extra expense;" and that, if this separator had been pushed as the others were, it would "take the lead." I am inclined to believe that Mr. Greiner is correct. But we have been trying to solve the problem of making this separator cheaper so that those who look at first cost may share the benefit equally with those who do look beyond first cost.

In the mean time it is to be seriously regretted that friend Betsinger may not live to see the growing popularity of one of his inventions. Perhaps it may be no small comfort to him in his sickness now if some near-by brother bee-keeper would call on him and convey to him the probable future of his invention. GLEANINGS wishes him a speedy recovery to health; and if any thing can be done to add to his comfort, we should be glad to have his friends notify us of the fact.

#### DANGER OF STARVATION THIS SPRING; WHAT AND HOW TO FEED.

FEARS have been expressed, and not without some grounds for it, that the extreme mildness of this winter will result in a larger consumption of stores, and this will mean retrenchment in brood-rearing if not actual starvation. Indeed, reports are already beginning to show this to some extent. While it is to be presumed that the ordinary reader of a bee paper will see that he has no colonies running short of stores, many of them, if they will make an examination, will be surprised to see the actual amount of stores consumed. It is very important to go over all the bees that are outdoors, on the first warm day. If there are any colonies that are short, there is nothing better in the world than a comb of sealed stores. Where it does not seem desirable to stir up the brood-nest, lay the comb right on top of the brood-frames, flat down. But bee-space it above the frames, then bee-space the quilt or cushion above the comb. If the hive is not provided with an upper story, put one on. Where combs of honey are not available, a very good substitute is chunks of candy made by mixing pulverized sugar and good extracted honey into a good stiff

dough; put a one, two, or three pound chunk of this on each colony, according to its needs.

In cool weather I do not advise giving liquid food in a feeder, as it stimulates or excites the bees too much, and causes them to fly out and die on exposure to the chilly atmosphere. If the atmosphere is warm enough so that the bees can store all the syrup before it turns cold, less harm will be done. But a colony so fed is quite liable to fly out; and if a weak colony is not watching its entrance, the fed bees are liable to pounce on it.

#### DIFFERENT METHODS OF CARRYING HIVES OUT OF AND INTO THE CELLAR.

IN the two illustrations here given are shown, first, our method of carrying two or three hives on a stretcher, as it were, to and from a cellar. The other view shows these same hives set down temporarily in front of the window of the cellar under the machine-shop, and the stretcher with its load on the ground. After about 25 or 30 hives are deposited, one man steps inside and the other hands the hives one by one to him, when he puts them in their final quarters for winter. Unfortunately, we have no open doorway for getting into this cellar, making it necessary for the carriers outside to unload at the window.

Of this stretcher method of carrying bees, I may say it is adapted only to level ground, and to men who will keep even step one with the other. At the time the photo was taken, it was during the month of December, and snow was falling, as will be seen. After the boys had loaded up I requested them to stand for a minute while I caught them with the camera.

The stretcher, or carrier proper, consists simply of a pair of 2x2 poles 6 or 8 feet long. For loading they are placed on the ground in parallel position. Each man then takes up a hive and places it on the carrier. If the hives are not too heavy, another one is placed over the other two. When loaded each man takes his position, one in front and one in the rear. The load is lifted, when each one can walk in a perfectly upright posture, with his arms outstretched, in which position he can lift the heaviest load.

On arriving at the cellarway it is very easy to unload, for all the men have to do is simply to stoop, allowing the poles to touch ground. With a cellarway not too steep, and plenty of room after they are inside, the men could go clear into the cellar. But where the ground is very uneven, as is the case in our Harrington yard, I greatly prefer to pick up the hives one by one. On an uneven surface with underbrush, it is practically impossible for one man to keep step with another; but where the ground is even, and a helper can be had, this plan has the advantage over any other way I know of. It is better than a wheelbarrow, because there will be no jolting, and because the hives will always be in an upright position.



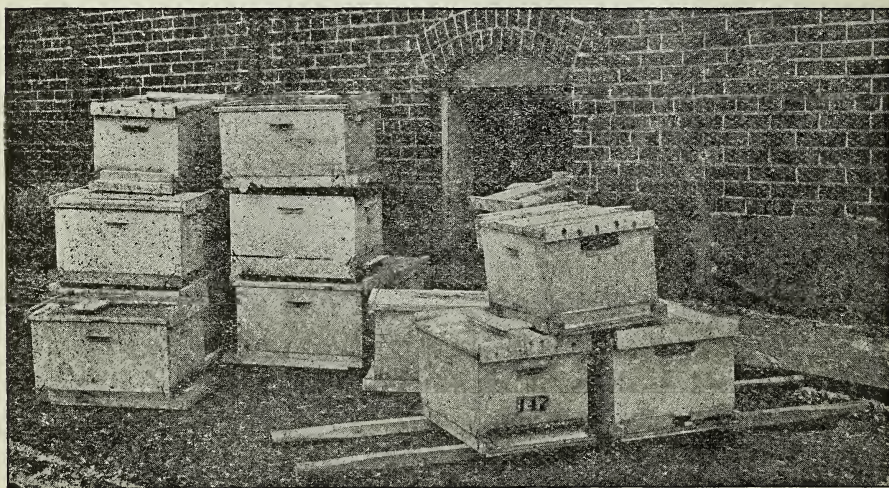
Then two men in this way can carry a good deal more than twice the load that each man can handle separately, and a great deal easier.

As it is time, or soon will be, to take bees out of the cellar, those who are not already familiar with the plan can very easily try it.

When one has to carry in his own bees alone he is compelled to pick up a hive and then bend back like a half-moon. This is decidedly awkward, both for lifting and walking; and, besides, the center of gravity has to be thrown clear out of a good easy walking position.



HOW COLONIES ARE CARRIED FROM THE CELLAR AT MEDINA.



THREE COLONIES ON THE "STRETCHER" READY TO BE CARRIED TO THE SUMMER STANDS.





In the issue for Nov. 15 Dr. Miller refers to the similarity of foreign journals and the lack of original matter in them; and in a footnote to his *Straw* it was suggested that it would be better to merge them into one or two larger and better journals. The matter of language in Europe makes this out of the question. Besides, these journals do not pretend to represent more than the little company of which each is the mouth-piece. Things are more fixed in Europe than here, and bee-keepers are more interested in what concerns their own neighborhood than in Europe as a whole. In our issue for Dec. 1 I supposed I had referred to all the German bee journals; but just now here comes a new one entitled *Die Europäische Bienenzucht*, "based on American principles." This is Vol. I. No. 1, published by A. Strauli, Scherzingen, Thurgau, Switzerland. Old methods in bee-keeping are changing rapidly in Europe, and some of them are even vanishing; but the publisher of this new candidate for public favor strikes right out for whatever he thinks is best. I infer he has been hampered somewhat in his former efforts as a contributor, as he says, "I rejoice in possessing an organ which is entirely independent, and in which I shall not be obliged to ask for permission to express my opinion." Externally the journal is elegant.

Of the remaining journals to be noticed, not printed in German or French; I would mention our old friend *El Colmenero Español*, published in Barcelona, Spain. It is the only Spanish bee journal we get.

*L'Apicoltore* is an Italian journal published in Milan, Italy. It is 39 years old, and one of the best bee journals published.

*Corrispondenza Apistica* is another Italian journal now in its fourth year, printed in Orsogna, Italy.

*Mesilane* is a bee journal printed in Lettish in Tallinas, Revel, Russia. Our readers are, of course, well aware of the fires of revolution that are now devastating that unhappy province.

*Bitidningen* is a Swedish bee journal published in Goseback, Sweden.

*Russkie Pchelovodnie Listork* is the name of a large and nicely printed bee journal in the Russian language.

*De Bie* is printed for the Dutch of Holland and Belgium at Wilmarndonck.

*Tidsskrift for Biskjotsel* is a Norwegian bee journal printed in Tvedestrand, Norway.

*Maandschrift voor Bijenteelt* is printed in Dutch at Beverwijk, Holland.

The above will show how difficult it would

be to merge these journals all into one, or even have them all printed in French and German—the predominant languages of Europe. Suffice it to say, they are all doing a good work, keeping their eyes on the United States as the land of wonders in the line of honey-production.

The list so far given represents fully half of the bee journals of the world; and the more we look at it, the more we shall be surprised at the vast amount of literature, in books and journals, devoted to the bee and its management.

It is difficult in some cases to make out the full address of our foreign exchanges, and in some it is impossible for us, as the names of towns and persons are so intermingled that we have to give up in despair. Sometimes the editor lives in one place and the printer far from him, each person connected with the publication having his own address.

Germans don't like to be cheated on their food stuffs. A striking evidence of this is related by the *Munich Bee Journal*. A dealer named Gustav Grote was fined \$150 for dealing in adulterated honey, and locked up in prison for 100 days. On top of this he received a month's imprisonment for his deception.



#### ORDER OF BIRD LICE.

Linnaeus, in his classification of insects, placed the bird lice with the bugs, scale insects, aphids, and parasitic lice in the order *Hemiptera*, which have already been described. These lice are very different, however, and should be made, without doubt, a distinct order. They are now placed by Comstock and others in a separate order—*Mallophaga*—a word meaning wool-eaters. These differ from the more common lice, and from all the bug order, in having biting instead of sucking mouth organs. Their thorax, the part of the body just back of the head, which bears the legs, is also very different in these bird lice from the same in the common parasitic of the order *Hemiptera*. Classification, if correct, will really suggest the genealogy of animals and plants. Surely the order *Mallophaga* and the sub-order *Parasitica* are plainly of distinct origin, and to group them together is entirely misleading. The feet of the bird lice are tipped with peculiar grasping organs which permit them to anchor firmly to wool, hair, etc.

While these are very common on birds they are also found on mammals; and by their worrying, irritating bite, are often a

serious scourge to animals victimized by their presence.

As stated in the article on bugs, a kerosene-and-lard mixture, half and half, is a capital remedy against these lice on poultry, where they chiefly affect man as a disturbing agent. I make free to say that ten per cent is a very mild estimate of the damage done to our fowls or the egg product from them because of the exhaustive irritation of lice and mites. Often when eggs are very high the hens give no returns at all. The owner wonders why. The one word "lice," or possibly mites, often explains all. As nearly every bee-man is also a chicken-fancier, at least in a small way, this item interests all in a very practical way. The sovereign remedy, and one not only immensely remunerative, but one as surely merciful, and very cheaply and easily applied, is to make all neat and cleanly, and to use the kerosene-lard ointment. At least twice a year the house inside and yard fence should be thoroughly whitewashed. Make the lime wash thin, and apply with a hand pump, such as the Root Co. sells at a very low figure. Remove droppings from the house not less than once a week. Rub the roost-poles once a month with kerosene oil, in the early morning, after the birds have left their perches. Then keep the kerosene and lard in a covered tin pail always in the house, hanging by nail or wire, so as to be ever ready, but not in the way. Once a month go in on a dark night, and, with gloved hands, rub a little of the ointment under the wings, along the thighs, and about the breast of each bird. If the fowls are kept as docile as they should be (a chicken should never be frightened) this can be done with almost no disturbance. I have done this repeatedly without one of my Light Brahmas or Plymouth Rocks leaving the roosts. I am not always as fortunate with Leghorns; yet it does no harm if they are disturbed one night in the month. In such case, however, I would make the application in the early morning, before the light roused the poultry to wakefulness and action. Let me conclude by saying that no work in the poultry-yard or on the farm will pay better than the above.

#### A BRIEF SCARE.

I wish to confess to a sharp start this morning as I read Dr. Miller's note on page 14. His first words were what startled me; yet before I completed the reading I was as greatly pleased. GLEANINGS would not have its mighty hold on our people if it had stuck severely to bees and the apiary. The name A. I. Root has become, and very justly, a household word in many a home in America, and, I may truly say, the world over. His sermonettes on the "drink problem," on tobacco, on the golden rule in business, etc., have, I am sure, done wondrous good. I sincerely believe that, if a vote were to be taken, ten to one of our readers would say keep the Homes department and the other wealth of good things in the paper. Dr. Miller is wise in his words, that we need

to read and think beyond the mere range of practicability, even to be the most practical. Dr. Franklin's kite-flying and Watts' eyeing the steam of the tea-kettle were not business, but a glorious use of their time, nevertheless.

#### TEMPERANCE.

Dr. Miller illustrates his own point in his comment on temperance. Let me tell him that one of God's own, Dr. Chapman, is doing right royal work for temperance in Southern California. He is a Presbyterian minister who left a very successful pastorate and a lovely home in that lovely city of California, Oakland, and has now given years to the Anti-saloon League in Southern California. He is a very Hercules in strength, and he hurls words of sense and power against the awful drink evil that are working most grandly to drive this saloon scourge from our fair section. Most of our cities and more than one entire county are clean of the wicked traffic. God bless and help Dr. Chapman and all his helpers, among whom may all readers of GLEANINGS be counted.

#### BEER AND TEMPERANCE.

We often hear it said that Germany is the greatest beer-drinking country of the world, and the most temperate; therefore (?) I have no doubt of the first assertion; yet I have seen more drunkenness since I reached here, Oct. 15, than in all the eleven years' sojourn in California, and more than I have ever seen elsewhere. Therefore (?) we hear that the water here is unsafe, and so one must drink wine and beer. I drink the water freely, and see no ill results. Wish I could say the same of the beer-guzzlers. I believe Berlin to rank away up in the drink habit, in drunkenness, and in immorality. I believe the three harness together.

#### A CASE IN POINT.

I read with exceeding interest of the triumph of engineering skill of Mr. Wm. Hood in constructing the Lucia cut-off at Salt Lake. This crosses the lake west of Ogden instead of passing around north, although this required a very high trestle of twelve miles, and an expensive "fill" of twenty miles, yet it cuts off 43 miles, and eliminates four very steep grades, and saves more than twice over the big interest on the entire cost of construction. There were about 3000 men constantly employed in the work. But the fact that interested me most was that no intoxicating liquor was permitted by Mr. Hood in the vicinity of the work. This brought thrift, frugality, and eliminated brawls, fights, quarrels, and other disturbances that would have embarrassed the enterprise. Some of our railroad managers forbid not only drinking, but tobacco as well, in engaging their employees. They realize that keen brains and sharp vision are not fostered by drink or tobacco, and they must have their men at their best. God wishes and deserves the best we have to give him and the world. Can he get it if we are the slaves of either of these habits?



## THE WIVES.

Those were good words: "Elected to an important office." I believe I'd better resign and let another take my place. *I consulted* my wife, and she approved. I am glad, Mr. Editor, you said that. Oh that more of us would advise with the "gude wives"! They will not advise tobacco or drink. We shall rarely go wrong or act unwisely if we follow the words of the wife. They are tremendously interested in us, and they will not be prejudiced by what might influence us to advise us wrongly.

## A. I. ROOT.

May I give a word that I had never expected to speak? I early learned to love and respect A. I. Root. I believed in him, and felt that he verily meant to do God service. Years ago he was to come to Michigan. I wrote, urging that he come and visit us. He came. He, wife, and I talked long into the night. It was a good visit. I lighted him to his room, and then went with my wife to my own room, and said: "What do you think of our friend?" for I had learned to have great respect for her intuitions. She answered, "He is a good man, and will do a great deal to sweeten the world." Surely the sequel has vindicated my wife's judgment.



## COLOR AND MARKINGS OF CARNIOLAN BEES.

"This is the second day of February, is it not, Mrs. Doolittle?"

"Yes, Mr. Doolittle, it is. Why do you wish to know?"

"Well, you have not forgotten what our fathers used to say about Candlemas day—'half your wood and half your hay,' have you?"

"That is so! Surely I had forgotten that old superstition. And, let me see! This is the day when the old bear comes out; and if the sun shines so he can see his shadow he goes back in his lair again and stays six weeks. Am I right?"

"Yes. And if he does not see his shadow he is going to stay out, for our winter will be over. But if he sees his shadow we shall have six weeks of winter while he is lying in his lair."

"I hope he need not see his shadow, for then we shall practically have no winter at all, for up to last night we have had nothing like our usual winter weather—no snow, and all mud most of the time, with the mercury at 70 above zero one week ago Sunday."

"But it was 3 below zero this morning, and it now looks as if the sun were going to shine; and if February goes by without plenty of rough zero weather it will be the first February of that kind on record in this locality."

"Yes, I know that we generally have 'eight weeks' of winter in February, or it seems that long, from the great rigor of the month. But how did the bees stand our week of summer weather when the mercury was from 50 to 70 above zero most of the time? Did not the bee-cellar get warmed up so the bees became uneasy?"

"No, not at all. This was the worst test of any thing we have had since thirty years ago, when the cellar was built. That extremely hot week the last of January, coming after an extremely mild winter up to that time, made me fear it would raise the temperature in the cellar till the bees would become uneasy; but when Mr. Clark and myself went in, just after the warm wave had passed, we found the temperature of the cellar at 46½ degrees, or 1½ degrees colder than it was the fore part of December, three weeks after the bees were set in."

"That is wonderful. And how were the bees?"

"Never nicer in the world—great clusters hanging down between the bottoms of the frames and the bottom-board, and all so quiet that not a bee stirred, even when the light was held close up to them. Hark! what was that?"

"It sounded like a rap at the door. Go and see who is there."

"Good morning, Mr. Doolittle. My name is L. A. Smith, and I had to get up pretty early this morning to come all the way from Montana to see you."

Come in, Mr. Smith. Cold outside here in York State. You must have had a cold trip."

"It was quite warm when I started; but it has grown rapidly cold since I entered your State. I came (an automobile story!) with Marriott in his automobile—that Stanley flyer, that one he made a mile in 28½ seconds with, down on the Florida beach the other day, so we did not have time to think of much else save using great caution not to run into the Empire State express train on the New York Central tracks. It left Buffalo half an hour ahead of us, making 60 miles an hour; but as we were making 127½ miles in our auto we passed it this side of Rochester."

"Well, well! I noticed that the Stanley flyer had beaten any thing on record that ever traveled on land; but I did not suppose that any bee-keeper would dare ride that fast."

"Well, I am here all safe and sound, and shall feel well repaid for my trouble in coming if you will tell the color of Carniolan bees."

"The description generally given of them says they are black with steel-gray bands."

"I have been given to understand that they are black, grayish black, or brownish

black, according to the different persons telling me of them."

"Did you find them thus?"

"I am not sure what part 'locality' plays in this matter; but I have never seen a colony of *black* bees in Montana."

"What color seemed to predominate with the Carniolans you had?"

"I have repeatedly sent for Carniolan queens, and they have been red; even the Carniolans that I ordered from the noted — turned red when they crossed the Montana line."

"You do not mean red as we consider the term generally, do you?"

"Well, perhaps not. My bees all show the yellow bands—some three, but more of them five; and if there is any difference between my Carniolans and your Italians it would take an expert to detect it. Are the Carniolan queens red?"

"Those I had were not."

"What color were they?"

"Very nearly the color of the black or German queens. One of those I had came very near being the color of a quite dark imported Italian queen, bordering on the leather color somewhat, but did not resemble my golden Italians in the least; and I am surprised that you should receive queens, said to be Carniolan, from — that were any thing like the golden or five-banded Italians."

"Do the workers from Carniolan queens show yellow bands?"

"The worker progeny from all four of the Carniolan queens which I have had, from as many different breeders, and as many different times during eight years, were not uniform. One queen gave about half her workers that were black with the steel gray bands of hair on the segments of the abdomen, while the other half showed two and three bands, like the Italians, trimmed with the steel-gray hairs. The other queens gave only about one bee in twenty with yellow on the horny scale to the three segments of the abdomen next the thorax."

"Then it would seem that the Carniolans which I have had were not nearly as pure as yours, according to the different descriptions in the papers."

"That is the way it would look. But perhaps you are just as well off, for I have gotten rid of those I have had."

"What was the trouble with them? Were they not good honey-gatherers?"

"The individual bees might be good honey-gatherers; but the trouble was I could not get enough of these individual bees collected together at the time our honey harvest was on to do more than gather honey enough for the feeding of the brood."

"How was that?"

"The queens would lay only sparingly up to the time when the honey harvest commenced; and when honey began to come in to an extent in proportion to the fewness of bees in the Carniolan colonies, then the queen would go to laying at an extravagant pace, so that the larvæ from these eggs would take all the honey the field bees could

gather as their food. And when that extravagant pace of eggs and larvæ emerged into bees the harvest was past and they would starve unless fed with sugar syrup or combs of honey from their thrifty Italian neighbors. But it might be different in Montana, where you have a more continuous honey-flow."

"I am much obliged. Here comes the 'Stanley flyer.' I am back for Montana. Good by."



#### SUPPLY AND DEMAND; OVER-PRODUCTION AND TOO HIGH PRICES.

I noticed in the Jan. 1st issue of GLEANINGS that Mr. Doolittle takes a somewhat somber view of the outlook for the sale of honey, and accounts for its slow sale by over-production, and the fact that it is not a standard article of consumption like whisky, tobacco, tea, etc., rather than the fear of adulteration. Now, while I have great respect for Mr. Doolittle's opinion, I can not altogether agree with his conclusions. It occurred to me to give my views, although they may be little better than "fancies and fallacies."

In my mind there is little doubt that adulteration plays an important part in the sale of honey. Let us suppose a certain city takes or consumes 15,000 lbs. of honey, pure and adulterated, for it all sells as honey. We will further suppose that 10,000 lbs. of this is adulterated with glucose, half and half. We will suppose further that a pure-food law is enacted that compels each to be sold under its own name. It needs no argument to show that there will very soon be a decrease in the sale of glucose and an increased demand for pure honey. As beekeepers we may rejoice that pure-food laws are spreading from State to State with very satisfactory results.

Another factor that Mr. Doolittle seems to have overlooked is the decrease of honey-producing plants. If I am correctly informed, the white sage of Southern California, that formerly produced such bountiful crops of honey, is disappearing before the settlement of the country.

Basswood has been placed high in the list of honey-plants, as one of the most important, if not the most so, in the production of surplus honey. With intelligent beekeepers there seems little reason to doubt that this source of honey will soon be cut off, very largely at least; and as basswood goes, so do the bee-keepers. Mr. A. E. Manum, who formerly lived eleven miles from me, and



owned from six to eight hundred colonies of bees, and one year produced from 35,000 to 40,000 lbs. of section honey, is out of the business, his last colony having died some years ago. Without basswood, he said, he could not make it pay.

In this vicinity honey is fast becoming, if it has not already become, a staple grocery article, and is found on the grocers' shelves as surely as butter and tea or tobacco. Some grocers are already refusing to sell tobacco, but sell honey instead. Let us hope that honey will never produce such a morbid appetite as whiskey, tobacco, or tea, that will make men go many miles for it when other and cheaper delicacies can be obtained near at hand.

But I see a rift in the clouds. The temperance sentiment of the country is increasing, and we hope and believe that at no distant day the commercial interests of the country will unite with its moral forces and crush this hydra-headed monster to the earth.

It would be very pleasant if we could sit in our homes or honey-rooms and have people come to us from near and far, as Doolittle suggests, for our honey; or, as one old farmer did to me, and as he is in the habit of doing, some days ago, to whom I sold 50 lbs. of extracted honey. But this is not the way the whisky and tobacco men sell their wares. Am I not continually receiving circulars from the liquor-houses, advertising their *pure whiskies, wines, etc., ad nauseam?* And do I not see the advertisements and pictures of the tobaccoists everywhere on the telephone-poles, guide-posts, and billboards? Dogs bark at them, horses get frightened at them, and the small urchin on the street looks at them and marvels at the mysterious qualities of tobacco that transforms the ragged boy into the man. We are told that Benjamin Franklin was the first to advertise in this country, and I have sometimes fancied that bee-keepers were the last to advertise, outside their trade-journals; but this is only a "fancy."

Let us not get discouraged in trying to educate the people. In many places in Europe honey is as often seen on the table as butter, and it is as common an article of diet; and as a million or so of these foreigners are being yearly brought to our shores they will want more honey.

And while our native population is fast increasing I believe I shall not endanger my reputation as a statistician in saying that the per capita consumption of honey is increasing in this country very much faster than the per-capita consumption of whisky, as I shall hope to show before I close.

I remember some fifty-five or sixty years ago how my father, then an enterprising farmer and bee-keeper, succeeded in securing one year some 50 or 75 lbs., perhaps more, of "box honey." He succeeded in getting the bees all out. The combs were of snowy whiteness. Later he brought some of it to this village for sale hoping to realize 12½ cents per pound net. By considerable effort he succeeded in disposing of only

a part of it, if I remember rightly, at ten cents a pound, and brought the rest home. I remember how sad and discouraged he looked. This looks like a clear case of overproduction or slow sale.

The population of our village is probably about the same to-day as fifty years ago; and yet the last year I have sold, to be consumed in this village and vicinity, some 700 lbs. of comb at from 14 to 16 cts. per lb. and 200 or 300 lbs. of extracted honey, to say nothing of what other bee-keepers have sold.

In 1860 Moses Quinby, then one of the most extensive honey-producers in the United States, produced a large crop of honey, and then bought of honey other bee-keepers till he had some 20,000 lbs., which he sent to New York. Such an unheard-of quantity of honey completely broke down that market, and a considerable portion of this honey could not be sold at any price, and was carried over till the next year. Certainly it would appear that there were too many bee-keepers in the business at that time as well as now; yet to-day that city will take 500,000 lbs. or more without winking.

But you say that was a long time ago, before the introduction of improved hives and methods. Well, let's see. Take the crop of 1904 here in Vermont. It went mostly to the Boston market, eagerly bought up by Boston dealers—i. e., the most of it. But there a large part of it got stuck. I sent down some fifty cases to be sold on commission. Some time in the winter I wrote to my commission house, inquiring how the honey was selling. It replied that very little was sold, and that it could not sell it at any price. The result was that an enormous amount of honey was carried through the winter and through the summer of 1905, probably not less than 50,000 or 60,000 lbs. Was not this a clear case of over-production, or too many engaged in the business? It certainly looked that way. Personally I thought I understood the situation, and bought another yard of bees and secured a crop nearly twice as large as the previous year, 1904, which has sold with reasonable promptness.

But what was the trouble with the crop of 1904 that it sold so slowly? I believe that neither adulteration nor over-production had any thing to do with it, but, rather, the fact that one or two Boston firms who wished to control the market, or largely so, bought up the crop, paying 16 or 17 cents for it so they could not sell at a fair profit after paying freight, cartage, etc., for less than 18 cents, and the retail dealer had to sell for 20 to 25 cents, which was more than most people were willing to pay, with the result that grocers bought what they could sell again at a profit, and turned their backs on honey, as they would very naturally do, if sensible people. This was clearly a case of slow selling, and also too high buying.

Once more: If honey sells so slowly that old producers, who have all the bees, and all the experience and utensils necessary for the successful prosecution of their business,

fail to eke out a precarious livelihood, what can a beginner do but go out of the business as soon as he learns the conditions?

Much more might be said; but I will close by saying that I believe the matter of production is largely automatic. If the price for any product is high, as potatoes or beans, hay or honey, more will be produced. If too low for profit, production will drop off without much regard to the advice of the agricultural press or bee journals.



### TAKING OUR BEES FROM THE CELLAR IN THE SPRING.

The Three Different Methods and their Advantages and Disadvantages.

BY E. W. ALEXANDER.

It will soon be time to attend to this, the first work of the season; so let us think over the many ways of doing it and see if there is not some one way much better than any other; for we don't want to make any mistakes this summer, especially at the start; for if we do, it frequently means spring dwindling, weak colonies, trouble from robbing, small surplus, and discouragement in the end. These can, many times, be traced back to a bad blunder made in taking our bees from the cellar.

I will first speak of the two most common ways of setting out bees, and in doing so I will call your attention to some serious fault in each; then I will describe the way we now do, which we think is far better than the way we used to do, and as many are doing now.

First, we have a fine warm morning, and we wish the bees were out; so, come on, boys, let us set out the bees, and out they go. We finish about one o'clock, and find that they have all come through the winter in quite good condition, and the boys say, "Oh, my! father, what a nice big fly they are having! I'll bet there are some hives over there in the middle of the yard that have two painfals of bees now."

"Yes, I see, boys; and since the wind has sprung up from the east, nearly all those hives at the east end are getting far more bees than belong to them. Don't you see how they head up against the wind? Then look over here at those hives at the west end of the yard, and see how very few bees are going into them."

Then I draw a long sigh, and say to myself, "It is done. I have made a big blunder,

and I can see only spring dwindling, weak colonies, and small surplus for this season."

My friend, I hope you have never had and never will have your apiary in that condition. I have been there many times, and I know well what the result will be.

Now we will take up another way of taking out our bees. It is this:

As the sun set to-night it had every appearance of a fine day to-morrow; so come, boys, I think we had better set out about 100 colonies of bees to-night, for we have a big lot to handle, and it will not be so hard to make several jobs of it. So we took out about 100 colonies that night; and after they had been out a little while they quieted down so they did not commence to fly until about 10 A.M. next day, then they flew quite well; but as it got some cloudy, and they kept on trying to fly, many were lost.

Well, we think it is time that they were all out, so we take out another lot to-night. These have a better fly, for it is much warmer. But here is a new trouble started — nearly all those hives we took out the first night are robbing these last hives, which are so busy getting water and locating their home that they don't seem to know it. Well, that is too bad. We are now, as the saying is, between two fires. Those that are left in the cellar have been so disturbed by taking the others out that they are leaving their hives badly, so I say, "Come on, let us get all the trouble on one side. We will take out the last to-night, let come what may."

This is done, and the next day happens to be the brightest and warmest day yet; and, oh what a picture that apiary makes the night of that last day! Those bees that were taken out the first two nights have commenced to rob this last lot as fast as they tried to fly, and not only robbed them of a large part of their honey, but the call that those strong full hives kept up all day has taken most of the bees from this last lot we carried out, and now less than 100 colonies have the greater part of the bees of the whole apiary, and they are so demoralized that it will be a hard job to get them righted, and I know we shall lose one-half of our colonies this spring.

Now the boys proposed to sit down and talk the situation over, and see if there is not some way that this loss and trouble can be avoided. O experience! thou art a dear school, and I often wish I could give the many readers of GLEANINGS more of our costly experience before they make the many bad mistakes I have made.

Now we will take up the third way of taking bees out of the cellar:

First get every thing all ready for a big job, and watch the weather closely, especially after a few nice days, for it is quite changeable at this time of the year. Then when the wind gets around in the east, and it commences to become overcast with hazy clouds, and has every appearance of bad weather for the morrow, we commence about sundown and carry out all our bees —



yes, even if it takes not only all night but into the next day; and if it commences to rain before we are done, all the better, for we don't want any to try to fly until they have been out two or three days if we can help it. During this time they will become nice and quiet; and when a fair day comes they will commence to fly, only a few at a time, and will get their location marked, so there will be no mixing up or robbing, as they all have their first fly together. Then when the day is over we find by examining our hives that nearly every one has apparently retained all its bees.

Now we feel that we have at last learned how to take our bees from the cellar. We know that close attention hereafter will almost wholly prevent spring dwindling, and we can see a fair chance for a good surplus in the fall. There are some who recommend setting out their bees quite early, some time before there are any flowers to work on. This I have tried several times, but never with good results. I'd much rather wait until there is something ready for them to gather pollen from, as soon as they have a chance to fly. Some may be unable to see how this way of taking bees out at night and all at one time can in any way prevent spring dwindling. It is this: It prevents a part of your colonies from becoming unnaturally strong by receiving bees from other colonies that consequently become correspondingly weak. Then these strong colonies continue day after day to draw many bees from those unfortunate weak colonies until they have but very few bees left. I have given this subject much thought and attention; and while I will admit it is not the whole cause of spring dwindling I am sure it frequently is one of the principal causes of so many of our colonies in early spring wasting away to a mere nothing.

Years ago we set out our bees much earlier than we do now, and we frequently gave them rye meal to work on as a substitute for early pollen. This practice caused them to leave their hives in search of flowers, many days when the air was too cold for them to fly in the shade, and so we discontinued it some time ago. We now like to keep them in the cellar until the most of that chilly weather is past; then when they are set out we do all that we can to hurry them along until the summer harvest is gathered. If those of you who have a large apiary to set out in one yard will try setting them all out in one night I am sure you will be well pleased with the result, especially if you can choose the weather so as to have one or two cool cloudy days before they attempt to fly. In that way you avoid getting your apiary in that demoralized condition that is often done by putting out a part at a time. It is easy to make these bad mistakes; and, if done early in the season, they many times leave their blighted mark on our apiary through nearly the whole summer.

Delanson, N. Y.

[While much that is said by Mr. Alexander may not be new, yet he has stated so

clearly the right and wrong ways of doing this work that I am sure all our cellar-winterers can read it with profit. We used to select a cool or crisp morning when old Sol was just showing his smiling face over the horizon, and when it would probably warm up during the middle of the day; but just so sure as we did this we would have a pow-wow among the bees. Sometimes when taking out a part, and later the entire lot, we would have another pow-wow—i. e., a case of robbing, the early bees stealing from the late ones. So, taking it all in all, I believe Mr. Alexander's advice to be particularly sound.

*Later.*—Since writing the foregoing the following has been received. The conclusion of both writers is very much the same. —ED.]

#### WHEN TO SET THE BEES OUT IN THE SPRING.

The Different Conditions that Have a Bearing on the Case.

BY C. DAVENPORT.

Although the right time to remove bees from cellars in the spring is a subject upon which much has been written it still is, as that time draws nigh, a matter of interest, especially to those who have not been long engaged in our fascinating pursuit. My experience has been that, whether it is best to set them out early or late, depends upon conditions which I will endeavor to explain.

In the first place I am governed in this to some extent by the conditions of the previous fall; for if the fall flow has continued late in sufficient quantity to keep brood-rearing up so that there is a large force of young bees that go into winter quarters, they can stand a longer or late confinement, other conditions being equal, better than if the fall flow were deficient, so that a large part of the cellar force was old or middle-aged bees at the time they were cellared. This latter condition has happened a number of times here; but if the weather was such that they could be removed early they built up strong without more (and in some cases much less) spring dwindling than when a strong force of late-reared bees was cellared and kept in late; for a large force of young or late-reared bees may not insure safe wintering or prevent spring dwindling.

The heaviest winter (or, rather, spring) loss I ever had occurred when brood-rearing was kept up late the previous fall. But in my opinion the most important thing to be considered in this matter is the condition of the bees themselves in early spring. If they are quiet and still in a semi-dormant state I do not believe any thing is to be gained by setting them out before settled warm weather; on the other hand, if they are restless and uneasy, and many are leaving the hives, and it is necessary to open windows or the door at night, I believe it is better to set them out the first day in March when the

weather is warm enough; for when bees have become very restless and uneasy in early spring, admitting the fresh or outside air causes great excitement; and, while they quiet down in time, I believe this excitement, if repeated very often, is harder on their vitality, and causes the loss of more bees than to set them out early.

I have at different times, when it became necessary to cool a cellar by admitting outside air at night, gone in and remained for some time to note the effect. In some cases it caused such an uproar and disturbance that thousands of bees left the hives and were lost. Where bees have become very restless and uneasy owing to bad air or the warmth of the cellar, I think cold air should be admitted gradually, or more harm than good may be the result afterward in spring dwindling. If bees have become so restless that it is difficult to remove them in the day time without many being lost they can be set out in the evening; though many suppose that, if bees are set out at night, they will fly the next day, no matter what the weather is. Such is not the case. They will not fly until the weather is suitable, except a few which would have flown out if they had been left in. But cellar-wintered bees, if removed in the day time, will fly, no matter how cold it is—that is, a large part of them will. I have in previous years removed or set out a good many in the evening, for then when they do fly they do not come out with such a rush, and mix up as they do sometimes when large numbers are set out on a warm day. But of late I have removed most of them in the day time, and practiced the plan of smoking each colony as soon as it is removed from the cellar. If this is done, and the entrances contracted, there will be but little if any trouble by mixing up or deserting hives.

Southern Minnesota.

#### HOW CAN WE SECURE MORE HONEY OF THE BEST QUALITY?

Alsike Clover vs. Alfalfa.

BY WM. M'EVROY.

This is the all-important question, and I am well aware that nearly every one, if he answered, would say, "By increasing and moving the bees to where they can gather honey from clover." This can be done; but with the increase of bees will it not lead to encroaching on other bee-keepers' rights? It certainly will if the parties moving the bees from place to place don't provide for their share of the pasture. Almost any locality can be made a good one by seeding down 20 acres each year for three years with alsike clover. I am going in for increasing, and starting out-apiaries in places where no bees are kept, and will supply enough alsike clover seed to seed down 20 acres each year for three years. It will cost me only about the price of 300 lbs. of extracted honey each year; and for this little outlay I shall be im-

mensely paid with a fine quality of the best honey.

Woodburn, Ont., Can., Feb. 12.

[When we consider I do not remember that any accurate experiments have ever been made showing what 20 acres of it put in every year for three years would do in keeping an ordinary bee-yard busy. If the suggestion had come from a lesser bee-keeper than yourself I am frank to say I should not have thought very much about it; but inasmuch as you mention the acreage it occurs to me that you know whereof you speak. Well, now, if there is a possibility that the profits of one yard can be very materially increased by the sowing of 20 acres of alsike for three consecutive years, we may well try the experiment, for there would not be much risk, because the price of the seed itself, or hay either, for that matter, will pay for the crop even if the bees should get no honey from it. By whatever amount the honey crop might be increased, there would be just that much clear gain.]

I have often gone into localities where bee-keepers claimed they secured almost no honey from white clover, but considerable from alsike. Next to alfalfa, alsike is the great artificial-pasture plant that a bee-keeper can work at all to advantage. But alfalfa will not grow and yield honey in the East, while alsike will thrive almost anywhere in the humid regions or rain-belt of the North, and yield honey. We are almost tempted to put 20 acres near one of our own yards, and get our neighbors to put in as much more as possible.—Ed.]

#### IF I WERE TO START ANEW, WHAT STYLE OF FRAMES, SUPERS, AND APPLIANCES WOULD I ADOPT?

The Importance of Having a Hive that will Give a Large Control of Swarming.

BY R. F. HOLTERMANN.

[In the Dec. 15th issue of GLEANINGS we promised to furnish for the current year a series of articles from our best writers on the subject "What Hives and Fixtures would I adopt if I were to Start Anew?" We have selected from among our correspondents men of a wide range of experience, some of whom are using standard factory goods, and some of them special hives of their own design. It is not the purpose of the editor to take any part in this discussion, and he will probably attach no footnotes to any of the articles, leaving each one to stand on its own merits. At the close of the discussion he may or may not prepare a general summary. The first of the series which we have to offer is from Mr. R. F. Holtermann, of Canada. This will be followed by others, so that, as the series goes on, the careful reader will be able to draw on the experience of some of the best men in our ranks. After Mr. Holtermann described his hive and system at the National convention in Chicago, the editor of this journal requested him to enter into this discussion. The article which he has furnished, though long, is full of interest and valuable hints, for Mr. H. is an extensive as well as a successful bee-keeper.—Ed.]

The above question is one which confronted me five years ago. I had sold out every thing, and had the rare opportunity to begin anew; and the question was, what to get



and how to get it for the least outlay. The path upon which I launched out was untried, and not without misgivings; and yet I had to act; and at the outset let me say that while, during the past five years, I found I had made some mistakes, I builded even better than I anticipated, and I have, during these five years, passed from the condition where I had to chase during the swarming season the greater and best portion of the day after swarms; and from the condition where broken-up colonies diminished my honey-yield very much, having colonies in the fall, and therefore spring, of extremes in numerical strength; and being content with these conditions to a condition where I look upon a swarm as a great misfortune in the history of a colony, and have reached the condition where I see even with a long flow and strong colonies in the spring the possibility of well nigh entirely controlling increase. I realize that strong colonies in the spring can be practically controlled and kept contented, even through a prolonged and not heavy honey-flow, and a much larger yield of honey secured, and hives kept in a more uniform condition throughout the year, and at the same time the unpleasant work of hiving swarms done away with, and also the expense of having some one watch the bees. I do not want to speak boastfully. I owe much to many sources for information. I am a strong advocate of taking all the bee periodicals that have any merit at all, and also a strong advocate of going to conventions and getting good ideas in convention and between sessions, and having false ideas knocked out by bringing them forward. The foolish thought, that one should keep an idea (in one's own estimation good) to himself is often suicidal, and many a one would have saved himself from expensive mistakes had he ventilated his pet notion.

Judging by what those about me under similar conditions have been able to accomplish, and that is the only fair comparison, my system is a brilliant success; and had my bees not been in out-apiaries upon the farms of others, and under their constant supervision, so that every mouth could be stopped, I should have been accused of adulteration or a misstatement as to fact. During the past season I secured from 296 colonies, spring count, a full 60,000 lbs. of honey, about 1000 lbs. of it comb honey. I had only about 15 natural swarms—I believe not quite that; ended the season with 336 colonies, which, without feeding a pound, would, in 12-frame Langstroth hives, average between 85 and 90 lbs. in weight, giving the bees an abundance of stores to turn into bees when spring came.

#### THE SUPPLY-DEALER AND THE SIZE OF HIVE.

The supply-dealer, if honest, has a difficult position. As I said at the Chicago convention, so I say now, with too few exceptions he has to deal with men in an industry, comparatively few of whom realize the value of the very best of equipments. He has to cater to a trade which is looking over catalogs or to

other sources for the hive, either with one comb-honey super or one extracting-super, which can be bought, not for the *lowest price*, the *cheapest* (mark the difference), but for the least *momentary outlay*, even if it is a gross extravagance to use them from year to year. Speaking in a general way right here, special factories may sometimes make goods rough, inaccurate, and not uniform; but home-made and local factory goods are always that way. Hives and all their equipments require accuracy and smoothness, as fixtures in connection with no other stock do. If the interiors of hives are not smooth the bees keep propolizing them; if bee-spaces are not accurate, propolis and comb building lead to constant inconvenience in handling, and loss of time and loss of temper to those about. I therefore decided on factory-made goods, and willingness to allow a fair profit after paying the expense of having good machines operated by skilled hands. All my past apiarian experience was then centered upon the size of hive, and in my decision I felt that, so far as that went, there was no risk in adopting a hive as large as the ten frame Langstroth; but what about the twelve-frame? I was in doubt; but I decided on the latter. First experience with, and the experience of others, decided me that, while a variation from the Langstroth (and, if any, in depth, I favor one slightly deeper—say one inch), might be a slight improvement, there was not sufficient to overcome the disadvantage of odd sized goods—a departure from the standard and the resultant difficulty in quickly getting supplies, and the increased cost, also the final loss when, through death or otherwise, the goods have to find a market value.

#### A STAPLE-SPACED FRAME.

I used a frame designed by Mr. S. T. Pettit,  $1\frac{1}{8}$  in wide by  $\frac{3}{8}$  deep top-bar; the side-bar, after passing the center, tapers, and meets a bottom-bar  $\frac{3}{4}$  inch wide. This is to prevent crushing bees by drawing out combs, which a wide bottom-bar is more liable to do. The top-bar has no groove, as such would not only weaken the top-bar, but lead to a waste of the foundation inserted. This portion is much needed at the bottom in the ordinary sheet of foundation to prevent the building of drone comb.

In passing let me say all the foundation I use is specially made, and wider and deeper than the ordinary. The frame is stapled, being spaced by the latter, driven in by means of a gauge (the last stroke being always about the same weight to secure uniformity), and a staple at each end of the side of the frame about an inch from the top bar, and at opposite sides. This leaves one end out, the outsides unspaced, and is a convenience in taking out the first comb. This method of spacing I learned from Morley Pettit.

The order of development in comb-holders I put as follows: The sides of the straw skep or box hive; a top-bar without side or bottom-bar; the complete frame. The un-

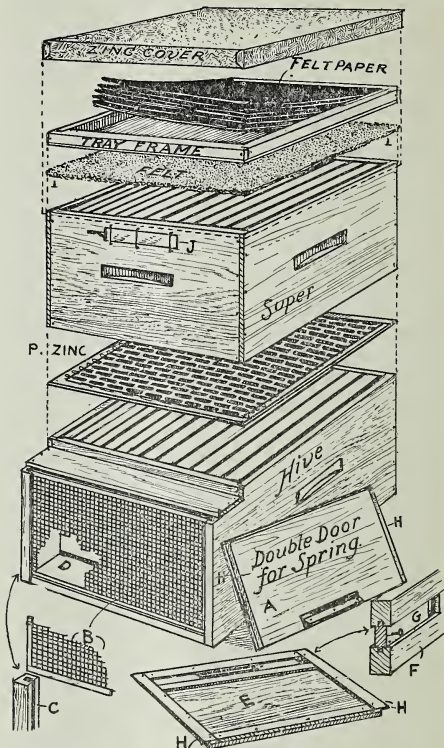
spaced (or, rather, not self-spaced) frame; the Hoffman frame with a wide side-bar the full distance down; your improved Hoffman frame; then the staple with its rounding terminus. I sent to Germany for every thing I could find in the nature of a spacer, but saw nothing that I could use for a spacer better than the staple. But when I went to Chicago I saw your new metal spacer, and I think I should prefer it to any other, as it strengthens the lug. I find with heavy combs of honey, as I shake, so as to have but little brushing, if the wood is cross-grained I sometimes split off the lug. Jacob Alpaugh has also a spacer, but it is not strictly a self-spacer. *I think the Hoffman frame can be improved;* but it was an advance in apiculture. At the end of even as shallow a frame as the Langstroth, there should be a spacer, a staple. The rounding corner is an aid to manipulation, preventing the crushing and rubbing of bees between the side-bar and side of hive, and helps to preserve the temper of the bees. I have not this arrangement, but have completed plans to put it in. I want to be able to use super combs in the brood-chamber, where, once put, they remain; but to do the above there must be uniformity in size. I have never seen sufficient advantages in difference in size in these two to compensate for the inconvenience.

Let me say right here that the hive which has all the advantages and no disadvantages, and the same of frames and other appliances, is unknown; it is merely a matter of what design will give me the greatest number of advantages. So much for the frame and the number.

#### THE HIVE I USE.

Where comb foundation is used, and I feel quite sure not to use it is extravagance, and where accurate spacing has been adopted, there is no need of a follower or the space for a follower. My hives are 17 inches inside. For an entrance (D) we should have it the full width of the hive, ordinarily  $\frac{3}{8}$  deep; but it can be dropped another  $\frac{1}{8}$  inch, thus giving a large amount of ventilation in warm weather, and, in cellar wintering, capable of contraction however. It is also surprising how, with the  $1\frac{1}{4}$ -inch-deep mouth to a hive the field bees fly right into it and save themselves much dropping short of the entrance, and therefore delay in unloading, as with the small entrances. In extremely and exceptionally hot weather, the bottom-board which slides into a rim at the back, but is not attached to the rim, can be pulled partly out, and ventilation given from below at the back. The bottom-boards should be well primed with oil, and painted. From the illustration it will be seen my hive has a portico with a groove, C, at either side. The sides project slightly beyond the top piece of the portico. The side pieces come out even with the bottom-board in front. This portico can be a part of the hive-body, or attached by means of screws or nails. As formerly used I see no use for a portico; but, as here designed, it becomes a valuable

factor in management. During spring the front of the hive can be made double-walled by means of a bridge under which the bees can pass; then a double door (A), the back shown in E with the adjustable sides moving



HOLTERMANN'S TWELVE-FRAME L. HIVE.

- A.—Double door for spring entrance, with adjustable entrance slides.
- B.—Wire screen for portico entrance.
- C.—Grooves in side-posts of hive for screws B or A to slide in.
- D.—Entrance to hive proper.
- E.—The back of A, showing slides.
- F.—Enlarged details of slide in A.
- G.—The slide-piece.
- H.—Thin edges which slide in grooves C.
- J.—Sliding tin, covering ventilator into super..
- K.—Hole in back of hive for cell-detection, and into which L fits.
- M.—Frame opposite K in hive, with side-bar cut away, wherein L goes.
- N.—Cavity in comb, with tin lining  $\frac{1}{4}$  in. from L.
- O.—Hole or slot in end-bar of frame for L.

to either side with its details as shown in F and G. H, H shows the thin pieces which slide in grooves C. The entrance to the double door is  $\frac{3}{8}$  inch higher than the entrance to the hive proper, and this, in addition to the advantage from a thick wall, acts as a wind and light break, as well as making the hive warmer; and bees in bright but cold days are less likely to be drawn to the entrance and out. One bee-keeper in New York, with 600 colonies of bees, said to me that that idea alone was worth hundreds of dollars to him. This front and a warm cov-



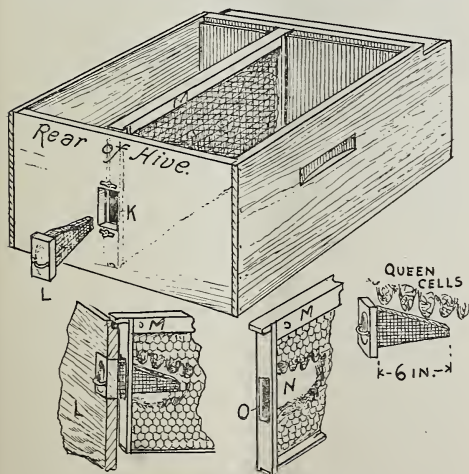
er, as will later be described, is over two-thirds the value of a double-walled spring-packed hive; and when the colony is full strength it needs no more. If not full strength, the outside of the 12 combs can be taken out, and the space filled with a  $\frac{3}{4}$  follower, with felt paper between them and the side of the hive. A hive so prepared, set upon a stand filled with chaff, leaves, etc., gives us every thing double-walled but the back, and yet every thing comes into use later.

When hot weather comes, the double door can be drawn part of the way out, and become a shade-board to the front of the hive.

#### A QUICK METHOD OF SCREENING THE BEES IN THE HIVE.

The wire screen B has now been used for three seasons by me to inclose the bees in the hive with the wide open  $1\frac{1}{4}$  entrance. I have moved the bees on wagons, shutting them in all night, and longer during July, August, and other months; and with thousands of experiences I have to smother my first colony so moved. I have also dropped down the screen when a swarm began to emerge, and confined them to the hive and portico until they returned, and then treated them, thus saving chasing after a swarm.

Three years ago we ran an apiary in this way, allowing a good deal of swarming, keeping the screens here and there in the apiary convenient for instant use. In only one case was a colony smothered. It was in very hot weather, and a student I had from England forgot the colony and left it confined for at least a day. These screens can, during the afternoon previous to moving, be inserted a third of the way into groove C and easily drop-



SWARMING-CELL DETECTOR.

ped and fastened by means of a sack through the mesh and into the light board at the top of the portico. The queen-excluder requires no description. I would not want to run for extracted honey without it. I want to be master of the queen to the extent of know-

ing where to find brood and where honey, and I do not want to find the body of the hive deserted, or largely so, and the queen out of place. For comb honey also I use queen-excluders to keep the drones from the sections. In the supers, I for the first time last year used ten combs in the twelve-frame space, and find it very satisfactory. I should not want closer spacing. Of course, when attempting to draw out foundation this spacing will not do.

#### MY SUPER-VENTILATOR.

In J we have a ventilator. No extracting-super should be without such. It consists of a groove through the board,  $\frac{3}{4}$  deep by 6 to 9 in. wide. My ventilators are not as shown in the illustration; but this fall I designed the one as given. It consists of three wide staples, one at each end of the groove and one in the center. Under it slides a galvanized iron piece of proper length and width. It turns up slightly at one end; and as it shuts, a small spring rises and prevents it from moving until the spring is pressed down. This is a cheap, effective, and simple design. By this method fresh air can be given to the bees in the super, and their only source of air is not through the crowded brood-chamber, and therefore air already largely exhausted. Many reasons make it advisable not to remove the honey until the close of the different flows of honey; and the bees, as I said in Chicago, must have a brood-chamber a certain proportion to the super room. This should not be less than two of super room to one of brood-chamber. Then comes a heavy duck cloth. Cheap cloths soon have holes; then a soft felt, and then the cover. The object of the soft felt is to secure shelter from heat or cold. The soft material takes up any unevenness in the frames or underneath, so the cover will fit well upon the edges of the hive.

#### CHEAP COVERS FALSE ECONOMY.

As to the cover, if I can say any thing in this article that will lead bee-keepers generally to abandon the low-priced but extravagant and expensive  $\frac{3}{4}$  or similar covers I shall have benefited them to the extent of millions. Let us present a parallel to the present hive with shallow entrance, no ventilator in super, and  $\frac{3}{4}$  sides and cover. Did you ever, in hot weather, extract honey in a frame building with no ventilation except a strip six inches deep under the door? If you did, you might get some idea of what the bees must suffer in a similar device in hot weather. It must be torture; and no wonder they want to keep from crowding such a hive by swarming. Again, in cold weather we want better protection than this in our homes. With a light white frost, go out in the morning and see none lying on the  $\frac{3}{4}$  hive-covers when the bees are underneath, and realize that heat is continually escaping. Wasted heat, with coal at \$5.00 a ton, is bad enough; but more so when we are using up a furnace in producing it. But when we come to honey as a heat-producer at \$140 a ton, and, say, 25 per cent water, bringing it

up to something like \$175 a ton, and the bees have to wear themselves out in generating this heat, we are surely indulging in an extravagant economy, and nothing more need be said. But this is only half the loss. By the escape of heat through cover, crack, etc., the power of the bees to cover brood is much reduced—a very serious item during the building-up time. On every hand we see this wasteful process. A cover is but little protection against heat or cold—how long will it be before there will be enough demand for something better to make it worth while for the supply-dealer to catalog it? The cover in the illustration is a tray with  $\frac{3}{8}$  lining in the bottom,  $\frac{3}{8}$ -inch rim, and felt paper to the depth of the half-inch fills the tray. Over this is slipped a galvanized pan which telescopes over the hive or super about half an inch. I have used painted cotton. I had 275 such covers. Prepared paper in this, the rain is likely to drive in at the ends of these. I had 200, and at a good deal of expense I have made changes, and favor the galvanized-iron tray. Let it be well galvanized, and it should last 25 years.

#### MY QUEEN-CELL DETECTOR.

Now for the queen-cell detector. If we take a comb near the center of the brood-chamber, and cut about the center a long hole, say half an inch, more or less, deep, and maintain that place when the bees want to build queen-cells, they will, in ninety-nine cases out of a hundred, utilize this. This has been taken advantage of in queen-rearing and other ways. It is simply providing the bees with a convenient spot in a favorable location for cells. This is taken advantage of in my cell-detector. K is an opening in the back of the hive. L is a block with attached frame-piece which slips into an opening in the frame opposite. The opening in the comb is bound by a piece of strong tin  $\frac{1}{2}$  inch wide, thus securing a bee-space between the comb and the block and piece L. With a built-out comb, which is better if not too new, the end-piece of the end-bar of the frame can be cut away entirely. If the bees have the swarming impulse, in nearly every case cells are found here if any are in the hive. The colony can be examined by withdrawing L, if any are found here, then the entire brood-chamber must be examined. Since my patent has been issued which covers this method of examination of queen-cells in whatever way, and also a small feeder in the place of the block for stimulative purposes, which can be refilled through the opening K, I have made the block sloping down, finding it better for the convenience of the queen; but this does not affect the patent. Such a device is of great help to the timid novice, the amateur who has not much time, the man who makes bee-keeping a side issue, and the extensive expert bee-keeper; but such a device becomes largely of no effect to the man who has holes in every direction in his combs which are so made that they will not be filled again with comb. Mr. W. Z. Hutchinson indorses this idea; in fact, he

knows it is a success. Mr. Frank Coverdall, Maquoketa, Iowa, strongly indorses it at Chicago, as did others.

#### THE BETSINGER SEPARATOR.

As to comb-honey supers, I have 100 Betsinger supers. They have a capacity of 3000 sections. The separator is made of tin-bound wire cloth, with a mesh large enough so the bees can pass through anywhere. With this the comb honey is capped just as evenly as with a solid board separator; and the latter, unlike wood, can be cleaned and made as good as new every season, so they are cheap in the end.

I have a specially designed straining-device and an uncapping-machine, which I may be able to describe at some future time.

Brantford, Ont.

#### WORK IN THE APIARY.

The Work that Can be Done Profitably During the Cold Weather; How Far Can Bees Fly?

BY W. R. GILBERT.

What is there to do now? would be asked only by the man who is accustomed to make preparations when there is little time for the purpose. There is more honey lost, I firmly believe, through lack of supers, either not procured at all or not ready when wanted, than from any other cause, in apiaries that are supposed to be managed.

I have seen hives in our garden with supers two or three stories high, and all full, while near by other bee-keepers have plenty of hives, but some of them supered. What folly! A swarm put into a box or skep will consume honey sufficient to pay more than half, if not the whole, of a modern outfit, in elaborating wax and building combs as well as in feeding thousands of larvæ. This should not be lost sight of. Suppose a strong colony sends out a good swarm, and two casts in due course, there will be in each hive at least 2000 hungry larvæ daily, to satisfy with food composed of honey and pollen. By proper management the three lots of bees might have been kept working in supers over their original home, while below only one lot of brood would be consuming honey. It is a well-known fact that one good stock will store more surplus than two or three small ones. Hence it is most desirable to plan work in the apiary beforehand, with the object of limiting the number of hives instead of increasing by immoderate swarming.

A well-known bee-keeper once wrote, "I have 75 lbs. of honey to the colony—25 lbs. of comb honey here, and 50 lbs. at the out-apiary, while neighbors have little or nothing. A poor year shows that proper manipulation of bees counts, while in a good year even the novice may succeed." It is also interesting to learn that the same authority says his own annual average for nearly 20 years up to the time he went largely in for queen-rearing was 80 lbs., ranging from 30



lbs. in his poorest year to 166 lbs. in his best year.

The planning of work will include not only the examination of every stock—feeding, and uniting to form good strong colonies—but making arrangements for planting out-apiaries in conveniently situated areas. All interference with hives should cease early in October.

#### HOW FAR DO BEES TRAVEL?

Upon this point much depends. The very object of establishing out-apiaries is to enable the bees to gather the greatest possible quantity of honey during the time the honey-flow lasts. It is most absurd to try to see how much the distance bees actually fly can be stretched. For twenty years I have always acted on the teaching that, if you want to move bees, it must be at least two miles. Time after time have I had occasion to move bees, much within that distance, but beyond a mile, and in only one instance have any bees returned. It is certainly unwise to expect much honey from a stock of bees located a mile or more from a honey-producing crop.

I once knew of an apiary which remained on the spot for eight years, and its crop was always shorter than that of any other apiary. It was on the bank of a large river, and about four miles north of the house; and, although it was known that the vicinity of the river had something to do with the scanty crops, yet it was not moved, because it was in a location where orchards abounded, and the facilities for a spring harvest were good. It was a long time the impression that the home apiary was helping to cut off the honey supply by its proximity; but this doubt was well cured when an apiary of ten colonies was found just half way which had harvested more surplus than the known ones. I have often since ascertained that localities three miles apart may have altogether different crops, both in quantity and quality. We should find out what crops likely to be of value to bees are growing in our district, and before the end of May. When stocks may be moved without danger, remove the bees to a spot only about a field away from the best sources of honey.

Medicine Hat, Man.

[Our basswood apiary is located about a mile and a half in an air-line from our home yard. One year when the basswoods were at their height I walked across the country to see how far the home bees were flying toward the basswood yard, and the basswood toward the home yard. I was surprised to see that the line of flight did not go much beyond half a mile. The probabilities are the bees could find all they could gather within that distance. In the case of clover it is possible and probable the bees would fly further, as they would have to take a longer time in getting a load, and in flying from one blossom to another they might go two or three miles. But I am satisfied that in an ordinarily level country they do not go much beyond a mile, even for clo-

ver. But there are marked exceptions to all rules. Mr. Alexander thought his bees would sometimes go five miles, for, as you are aware, he has 750 colonies in one locality. This number would drain all the nectar in a radius of two miles without difficulty; yet two or three miles beyond they can see other patches of white (buckwheat), and apparently they will fly further across a valley or a body of water, when they see plenty of color beyond, than they will when they have to go over underbrush on a level where they can't see ahead. Possibly this long-range-vision idea will be pronounced a heresy. Let the doubter travel over the country and observe for himself.—Ed.]

---

#### CHAMBERS' CELL-STARTING DEVICE.

##### A Simple and Convenient Device for Starting Queen-cells.

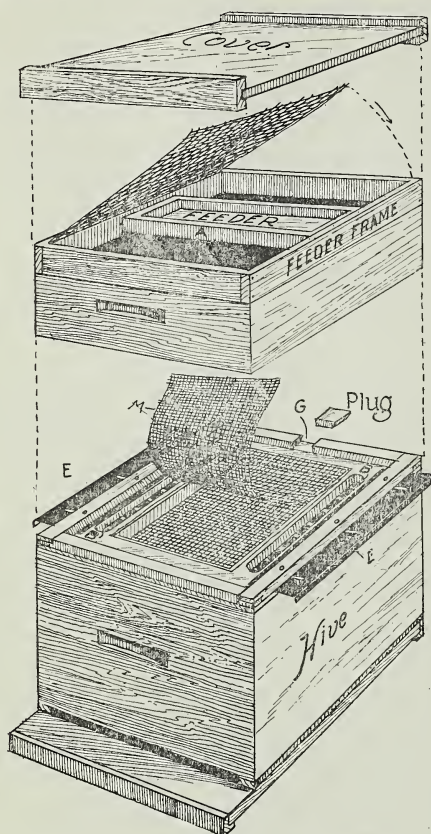
BY J. E. CHAMBERS.

[The reader may be a little confused unless he understands that the lower hive shown in the illustration is *not* full depth but *half depth*, the same as the half-depth body shown under the feeder-frame. Otherwise it would not be possible to take frames from the lower to the upper hive, as explained by Mr. Chambers, who, if we are correct, is a user of shallow brood-chambers.—Ed.]

During the past six years I have been studying the many different systems of queen-rearing and cell-starting. To most of them I have found one serious objection: They are all too complicated, too technical, methodical, and admit of no modification or elasticity. They take up too much time, all pottering and mussy, and are entirely impractical in the hands of the novice, and fail to bring results proportionate to the amount of work involved. After quite an extended trial, side by side, I had to give them up as not being equal to (in my hands at least) the system and device which I am going to describe. Of course, I do not want this understood as a condemnation of any of these systems. In the hands of the very expert they are, no doubt, effective; but the less expert, to say nothing of the novice, will be apt to fail of attaining satisfying results, in either quantity or quality. As for myself I do not claim to be much of an expert. I have been studying queen-breeding but a little over six years and bee-keeping for twenty; and to my awkwardness, perhaps, as much as to any thing else, is due my failure to make these several systems work satisfactorily. Be that as it may, I have one of my own, and intend to give it to the public. I make this explanation in order to assure all that I am not leveling my guns at any one's pet system as some may think.

This new device consists of a trap screen-board; but a double screen is preferable for the purpose of maintaining the colony odor, at the same time keeping the reigning queen in the lower hive as far away from the cell-starting bees in the upper hive or super as possible. This double screen is shown at M, the top screen being raised in order to afford a clear view of the lower one. At either side

of this screen is shown a long slot covered at the bottom with perforated zinc, and at the top with tin slide, shown at E. E. In the rear of the board is a flight-hole and plug, shown at G.



THE CHAMBERS CELL-BUILDING HIVE.

This description completes the explanation necessary to a clear understanding of this part of the device. The remaining parts consist of a plain rim two inches deep, and the size of the hive in use. This is called the feeder-frame. Nailed crosswise of this frame is the feeder, shown at A, with a beespace over and under it. In the illustration the screen cloth is turned back to show the feeder. When I desire to start a lot of cells I fasten a trap screen-board to the bottom of a shallow hive-body and take it to a hive containing one of my imported breeders. I now select four combs of as nearly solid sealed brood as possible, and one comb of brood in all stages of development, placing the sealed brood in the center of this shallow hive. I spread them so as to receive the comb containing the open brood, and then fill up the lower hive with empty combs. I now place the feeding-rim over the shallow body, and the cover over all. But if the weather is very hot it will

be necessary to lift the cover a little in order to give air. The tin slides, E. E., are pulled out as shown in the illustration, at nightfall. I raise the cover and pour into the feeder a pint or more of thick feed. This will occupy the attention of the young bees during the entire night. Early in the morning I go to the hive and shove in the tin slides, and thus trap the full force of young bees at work above the trap-board. In less than 24 hours they will be starting cells; but during this time water must be given in the feeder, for these young bees are cut off from all possible chance of getting it. As soon as all is ready I begin operations by taking a cell-bar, with about 25 Doolittle cups attached, and, going to the hive, I blow a little smoke through the screen-covered feeding-rim to drive the bees down a little and tilt the rim to one side, and quickly lift out the comb containing open brood, being very careful to brush the adhering bees back into the hive. I now turn the comb upside down on the feeding rim, and with a fine camel's-hair brush I proceed to throw out the young larvæ in the cells already started, using the royal jelly to prime the artificial cups; and as the colony contains a breeder I do not have to open another hive in order to get all the larvæ I need for grafting these 25 cells; and I always feel good about this special feature of this system, for I know well enough that these young larvæ have not been starved during the first few hours of their life, but are, on the contrary, always found floating in royal food, and these are the kind to use when the cells are all grafted. I place the cups down between the combs of sealed brood, and close up the hive. I now tilt the top body up and replace the comb of open brood in the lower hive where it first came from, and the operation is complete except to give water during the day and feed at night. On the third day after the cups are given I pull out the tin slides and restore communication with the lower hive, and at the same time I remove the plug G and allow the trapped bees to have a flight. Only a few of the old fellows will return to the lower hive, and these do not matter. From this time on during the season I do not close up this hole, but allow the bees to use it at all times as a flight-hole. The tin slides are to be shoved in only when trapping bees to start cell-building, and must be pulled out again as soon as cells are well under way, and again shoved in when a second batch of cells is wanted. The number of cells a colony can complete is, of course, governed entirely by the length of time the sealed cells are left with the building colony. I always prefer to leave them until the evening of the sixth day, and in this way I can get only two batches of cells a month; but as I have fifteen imported breeders I can easily get 675 cells a month from the lot; and if I choose to take away the cells as soon as they are sealed I can easily get a thousand or more. Besides all this I can get drones galore by drawing away freely the unsealed



brood, at the same time returning a host of well-fed young bees back to the lower hive. These conditions, with plenty of drone comb in the lower hive, and abundant feeding, always insure a good supply of drones, which is of the utmost importance to the queen-breeder. Meantime the colonies are kept at normal strength, and during the past year such colonies gathered nearly as much honey as any others in my yards, and the quality of the cells thus produced I consider fully equal to any that I ever saw, not even excepting swarm cells. Moreover, there is this very important advantage—no colonies have to be torn up or remain long queenless. Only one colony is disturbed at a time, and the work is all done in such a short space of time, and the bees are so well protected, and exposed for so short a space of time, that robbers do not have much of a chance at them in a bad season.

After the colony is once prepared it is just fun to raise queens; whereas by the use of other systems I always considered it a very tiresome job at best. However, there are some things to be constantly kept in mind when using this device and system. One of the most important is that, when used to its full capacity, the constant drawing-away of open brood may induce supercedure of the queens, as the same conditions prevail as when a queen is failing. At the same time this is the prime reason why drones are reared so abundantly, yet still another can be found in the returning of the large number of well-fed young bees to the lower hive directly on to the queen and brood. The surfeit of feed also has much to do with these results.

In this article I have but barely outlined the possibilities of this simple device; neither have I laid claim to any thing but what I have actually accomplished. However, I think there are several improvements possible; but as it is, I know it is vastly superior to many of the complicated systems now so extensively used, and to the novice it is simple and sure of results. I am not one to court notoriety, neither do I care a cent for what this or that one may think or say; but to those who want something easier and simpler than the systems now in use I especially recommend this. It will not disappoint you.

Vigo, Texas.

#### POULTRY.

Some Recent Misleading Statements Concerning it Corrected; Eggs Sold by the Pound.

BY BARNARD CUMMINGS.

As an introduction I wish to say that I am a bee-enthusiast as well as a poultry-fancier. I wish to do the bee fraternity as much good as possible, but I feel the same interest in the poultry industry. This interest leads me to correct a few errors concerning poultry which GLEANINGS has been publishing. The first one that I noticed was by the editor, page 1029, 1905: "Bees will yield a

great deal more money than the poultry business, on the average." Next came the defense of the above statement in an answer to a Straw, page 1062. Then the editor again, in the same issue, says, "But no one would think of buying eggs by the pound."

Inverting the order I will answer the last one first. Eggs are sold by weight, in parts of Minneapolis at least. Without doubt, if you will write to the *Reliable Poultry Journal*, at Quincy, Ill., they will furnish you any number of localities where eggs are sold by the pound. This is the only fair way when the eggs are to be consumed.

The defense offered to Dr. Miller's Straw, "Several young men who have gone into the poultry business quite extensively and sunk every cent that they had," can be given as a very good reason for a failure. Think of a beginner sinking every cent in the bee business! The idea is prevalent that anybody can succeed with poultry while the reverse is the case with bees. This difference causes the plunging into the poultry industry, only to lose most of the property; and the slowly accumulating beginning and investments in bees, the way of sure success.

If I may digress I will state that it took me four years—between the ages of 14 and 18—to be able to keep a flock of chickens during winter just the way that I wanted them. That way calls for all the chickens in good condition, and eggs just when wanted. The last is very important in raising prize-winners. Did any of these young men have practical knowledge of poultry?

Now to go back to the first statement. The editor has thoroughly intrenched himself with that word "average." I do not purpose to deal with that word. Were I to get an *average* I should have to consult records for weeks; nor do I purpose to give records of what an average man can do with each. When we consider a bee-keeper who uses modern methods—the only ones entitled to that name—we must consider a poultry-man who does succeed, and does more than to provide himself with delicacies; for assuredly bee-keeping is skilled labor, while merely to keep fowls does not require such skill. As we have taken a bee-keeper whose profits are the minimum—practically nothing—and contrasted him with a man employing the same intelligence in raising poultry, and as we have agreed that such a man does obtain profits, and remunerative ones, we can not but admit that in this case there is more money in poultry.

We will present the matter in another case. What can and is to be obtained from each? Here, again, I am unable to offer a table of facts, as much as I desire to do so. On page 1020 Mr. Quirin admits \$8000 to exceed his income. Mr. Quirin's income is the only bee-keeper's income I can put in figures; but I am enough of a bee enthusiast to know approximately what our greatest bee-keepers clear on the average each year; and, as I stated, I am a poultry-fancier enough to know much the same regarding our lights in poultry culture. I am prepared

to name several poultry-men whose profit, I am satisfied equals at least twice that of as many bee-keepers. Among these are Northrup, of Black Minorca fame, who sold a cock bird last year for \$1000. together with some twenty others for over \$800, if I remember rightly. I was unable to find the paper, but the \$1000 rooster is a classic. Others of as great an annual profit are Fichel, of White Plymouth Rocks; Arthur Duston, of White Wyandottes; Knapp Bros., of White Leghorns; Rankin and Weber Bros., of Pekin ducks. These men have made more from poultry than our specialists have from bees. This, together with the fact that the poultry business can be indefinitely increased without seeking locations for out-farms, shows that more money can be made with poultry than with bees.

It might be well to compare two "gauges" of the business. I refer to the papers and the shows. The poultry industry supports such shows as are beginning to be dreamed of by the bee-keepers. But the papers! GLEANINGS, the largest bee paper published, has a subscription list of about 30,000, while the *Reliable Poultry Journal*, the largest of its kind, guarantees a circulation of 50,000 copies, and claims that it will distribute 55,000. There are seven bee journals published in America. I will estimate that there are about forty poultry papers.

Many of the readers may wish to know why Frank McGlade, page 1307, failed so utterly. I don't know. He doesn't say enough. However, with fair management he should have hatched 500 of the 660 eggs set under the hens and raised at least 475 of the chicks. Why didn't his fifty pullets lay? If they were good s'ock and early birds, as he says they were, it was because of the poorest of management. At his illustrations I am ready to laugh with the rest of the bee-keepers and poultry-men.

One more thing. If he had started bees first he would have failed with them. It was only what he learned from chickens that made him capable of keeping bees. In the same manner, had he failed with bees first he would have taken chickens in a way that would have brought success.

Chicago, Ill.

[Referring to the two quotations from myself, I will say that I had in mind only the poultry-keeper who raises eggs to sell for the market. Of course, I was well aware that, where fancy stock was sold, large prices are secured. But in view of the evidence already presented, I am now prepared to believe that the poultry business can be made to pay even where eggs are produced for the market, and I therefore stand corrected. Perhaps I am not giving away any secret, but I will state that I have about a dozen hens, and I am trying to see what I can make them do. It has been somewhat of a revelation to us to learn that so many of our bee-keepers are also poultry-keepers; and for that reason we shall be the more anxious that the chicken side shall have "a square deal" in this discussion.—ED.]

## BEE-HUNTING.

Conditions under Which it Can be Made to Pay.

BY RALPH P. FISHER.

Mr. Frank P. Stowe's article on page 1193, November 15, has brought to my mind days that I myself have spent at the same sport. Anybody reading the article for what it is worth would be apt to infer that bee-hunting as a business is not profitable, and so to indulge would surely result in dissatisfaction.

In my opinion anybody clever enough to understand the nature of bees can, with the right system, turn bee-hunting into no little source of profit. As locality seems to have a great deal to do with the quantity of honey produced, just so does it limit the success of bee-hunting as a business. A locality, to be an ideal place for wild bees, must possess clusters of old timber, rocky hills, or swamps; in fact, any place where one can find hollow trees of oak, elm, or ash of sufficient size to accommodate their requirements. This same location must also contain domesticated bees kept in such a way that absconding swarms are frequent. Almost any farmer keeping bees can tell you how many swarms flew away and how much honey he could have had, if he were only at home to hive them properly instead of being somewhere in a back field plowing.

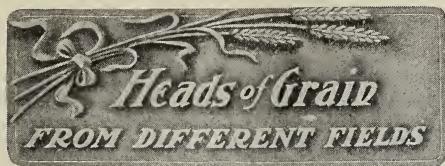
Although our friend Stowe resides in Connecticut, he is evidently not blessed with such a locality; but I know personally that there are many places in that State where wild bees are more plentiful in the same surrounding parts than the domesticated ones. As a rule, in any country having small mountains or hills well wooded, wild bees can be found in quantity.

A special box is not needed at all, as a common cigar-box containing a square of honey and a glass or two with which to catch the bees concludes an ideal outfit. If you are out for business you need not less than a quart of syrup proportioned as follows: Sugar ten parts; water ten parts; honey five parts. This is very good, but one could use any sort of honey and in any quantity desired. Also pour ten or twelve drops of anise oil over the box in order to procure an aroma scented highly to attract the bees or they will go to work again on the flowers if many are present.

I have found as many as four trees in a day; but, to be more exact, most generally two or three, with occasionally only one. The bees are taken out, hived, requeneed, and allowed to rob all the honey, after which they are sold. Five dollars is the price of a good colony of bees in an eight-frame hive with the ordinary Italian queen. Some swarms thus treated store as much as three supers of honey in 4½ sections. Three such supers equal 72 lbs. This, sold at 15 cents straight, amounts to \$10.80; and if this does not prove bee-hunting profitable, then Mr. Stowe's article may hold consistent.

Great Meadows, N. J.





EARLY VS. LATE PUTTING OF BEES IN THE CELLAR; NO-DRIIP CLEATS ON CORRUGATED PAPER.

In reply to Dr. Miller's Straw, page 1292, I beg to say, Nov. 25, 1904, I moved about 50 colonies of bees  $3\frac{1}{2}$  miles and put them in the cellar Nov. 26 without a flight, as both days mercury was about 15 or 20 above zero. They were put in the cellar with about the same number that were put in Nov. 15, that were located there, in exactly the same manner, and on my various visits during the winter I found them as quiet as the others; and along toward spring those put in on the 15th seemed to be more uneasy. There was no difference in their condition when removed from the cellar about April 10. and not a single dead colony in the cellar, and these latter ones built up just as readily as those cellared on the 15th. These last-cellared ones I bought at various places in the country, and were hauled to my home yard from two to four weeks prior to Nov. 25, and had plenty of flights between the two journeys.

On page 1330, footnote to J. E. Crane's article relative to packing comb honey in corrugated paper, why not use the no drip cleats on top of the corrugated sheet?

Don't encourage the importation of stingless bees. We have English sparrows enough here now. ELIAS FOX.

Hillsboro, Wis., Dec. 29.

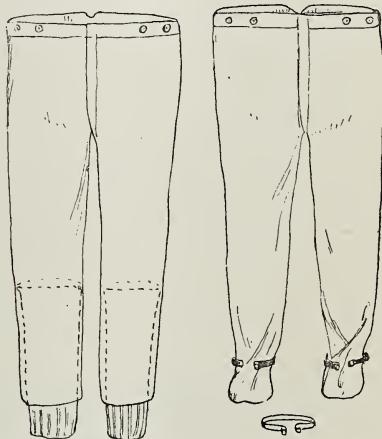
[It would not be practicable to use no drip cleats on corrugated paper, for the reason that such supports present so narrow a surface that the weight of the sections would cause them to mash down the paper at the narrow line of contact. To use a homely illustration, I might say you can *crawl* alligator fashion over thin ice on a pond because your weight is distributed over considerable area of ice, when you can not *walk* on that same ice because your weight would be focused down on a few square inches under your feet. When sections are piled directly on corrugated paper, every inch of their bottoms is distributed over every inch of that paper. If that weight be put on two or three or four narrow lines of contact with the paper, the surface of the paper next to the line of contact would crush.

You need not worry about stingless bees. In the northern States, at least, it would be impossible to propagate them. We had one colony that we managed to keep alive some two or three months in warm weather; but the first cool nights of September cleaned them out. There may be differences in varieties; but I doubt if there is any locality,

except in the extreme southern parts of Florida, Texas, or California, where they could be kept through winter. The most that we can say about stingless bees is that they are interesting curiosities. I have not been able to regard them thus far in any other light. The English sparrow would hardly be a parallel case, for the reason that this bird came into a climate almost the same as it left in mother England. The stingless bees, on the contrary, when brought to this country come into a climate very different from what they have been accustomed to. — ED ]

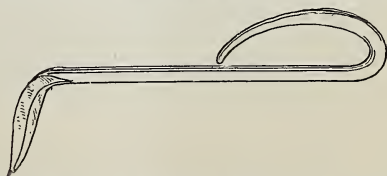
HOW TO PREVENT BEES FROM CRAWLING UP THE TROUSERS LEGS; A FRAME-HOOK FOR A HIVE-TOOL.

If you don't want to be bothered by bees crawling up the inside of your trousers, have the good wife cut the bottoms off the legs of an old pair and sew them in below the knees, letting them hang about three



inches below the bottom of the trousers legs. Tuck the false legs inside your socks and let the pants legs hang outside. This plan will keep the bees out, and also keep dust and dirt from soiling the underclothes, when working in a dusty place. Try it: you will be more than pleased with the results.

I use the Hoffman frame, and think it the best one on earth. I made a hive-tool of  $\frac{1}{4}$ -inch round steel, with a double-edged knife-blade turned on one end. The other end is turned over to make a handle. The blade is



about one inch long and  $\frac{3}{8}$  wide at the widest part with a rather blunt edge on the upper side; but the lower edge is keen, and will cut as well as a jack-knife. The tool is 13

inches long. To loosen frames, push the tool down between them; shove the blade between the end-bars and pull up, or shove down between the end-bars. It is also very handy to run down between the end-bar and the hive to cut burr-comb. If the frame is liable to break, hook the blade under the lower edge near the end-bar, and lift, after the frame is loosened at the top. This tool can also be used to pry covers loose if rightly made.

R. D. CHAPPELL.

Vassar, Mich.

[Your scheme of sewing false pants legs below the knees inside of another pair of pants is not bad. It would do away with the unsightliness of tucking the pants into the stockings, although for hot summer weather it would be too much of a good thing during times when the bees are not being worked. The plan that we ordinarily employ, and which we see used by many of the best bee-keepers in the country, including the Alexanders, is to tuck the bottom of the pants together and hold them tight by means of bicycle pants-guards as shown in the illustration at the right. The guards can be bought anywhere for 15 cents a pair, and it takes but a moment to put them on; and if the pants be carefully tucked before being encircled by the guard, no bee can crawl up. They would have an advantage over your false legs in that they could be instantly removed and thus contribute to the comfort of the wearer in hot weather.

Your hive-tool I believe to be all right, where you separate the frames at the points of contact between the end-bars; but this sharp edge would, in my opinion, soon whittle down the V edge of Hoffman frames, and thus destroy exact spacing. In cool weather, when propolis is bad we sometimes use the knife-blade, pushing it between a pair of end bars. Ordinarily we have no trouble by using a blunter tool and giving a side twist between top-bars.—Ed.]

#### QUESTIONS CONCERNING THE BUYING OF NUCLEI.

1. What kind of feeder is best to feed up nuclei that have been bought in the spring?

2. I shall buy three-frame nuclei. How long should it take for them to increase so I could put three frames in another hive, leaving the original three in the first hive? Shall I have to buy another queen, or will the new nuclei have queen-cells so they can raise their own queen?

3. How long should I feed after this?

4. How should I place the division-board when I place nuclei in the hive?

E. E. SHERWOOD.

Wurtsboro, N. Y., Jan. 19.

[For feeding up nuclei when not strong, chunks of Good candy made by mixing sugar and honey into a stiff dough are excellent. Giving liquid syrup early in the spring is apt to stimulate too much, and to incite robbing. These little nuclei should have small en-

trances, not much larger than that two or three bees can pass at a time.

We generally use Doolittle feeders. They are nothing more nor less than hollow division-boards to hold syrup, and hang in the hive just like a brood-frame.

With the right kind of management you might be able to take away three frames of brood and bees in about six weeks. In good weather you may do even better. A better plan, however, would be to let each nucleus have its increase all in one hive till the hive is nearly full of bees and brood, then make your division. A strong colony will rear more brood, in proportion to its size, than a nucleus.

You can rear your own queens; but if you wish to make rapid increase you had better buy them.

You should not feed after the bees begin to gather honey from natural sources.

The division-board, if a full sized hive is used, should be placed close up to the brood.—Ed.]



AN APIARY UNDER APPLE BLOSSOMS.

Here is a view of part of our apiary, "when the apples bloom," made by my son Arthur.

LOUIS C. KOEHLER.

Tisch Mills, Wis.

#### PREVENTING SWARMING BY PUTTING ONE COLONY DIRECTLY OVER ANOTHER; IS THIS PLAN A SUCCESS?

Two or three years ago I read in an article in GLEANINGS of a plan of working two hives of bees together—one on top of the other—with very satisfactory results. It was stated that neither of them swarmed, and that a fine lot of honey was taken off this double decker. I worked two weak colonies the same way the season of 1904. They



gave me 112 sections of honey; and if either of them swarmed we never knew it, as we can not watch our bees very closely, so we were not very sure on this point. Won't you please tell us what you think, know, or can find out about this plan, especially as to its influence on swarming? The writer would be grateful to read something on this subject.

J. L. HOWE.

Robbinsville, N. J., Dec. 26.

[I would not be able to give you any definite answer as to when the method you describe was given. Possibly what you refer to may be a series of articles by the editor, describing and recommending the "double-decker" plan of running for comb honey. This is nothing more nor less than two-story colonies, each story having a large amount of brood; in a word, the colonies are made powerful by stimulative feeding or by uniting, the queen being given unlimited room in which to lay eggs. This results in few or no swarms when extracted honey is produced, and very little swarming when comb honey is the object. But in localities of short honey-flow, especially if the seasons are dry, such colonies will give better results in extracted than comb. The plan is particularly well adapted for outyards where the owner can visit them only at stated times even during the swarming season.—ED.]

#### SUCCESSFUL BEE-KEEPING ON A CITY LOT.

I am sending you two pictures showing an arrangement for shading colonies kept in a city back yard. This first season I increased from the first hive, at the left, to four. From the second hive at the left I had one

no honey at all. I also fed back two dozen unfinished sections. All the colonies are in Danzenbaker hives.

J. A. PHILLIPS.

Washington, D. C.

[Mr. Alexander says his hives do better without shade; but there are other localities where this would not be true. This would be so in your case.—ED.]

#### HONEY INSTEAD OF BEEFSTEAK; BREAKING THE RECORD ON HONEY-EATING.

I think my family of four can beat Mr. Coultrin, page 96, in eating honey. From July 6, 1902, to Dec. 31, 1902, we consumed 170  $4\frac{1}{2} \times 4\frac{1}{2}$  sections of comb honey. For 1903 the figures for family are 370 lbs.; 1904 we sold short, so we had only 355 lbs.; 1905 we consumed 346 lbs., and have about 140 lbs. to do us till honey comes. One  $4\frac{1}{2} \times 4\frac{1}{2}$  section just does us for breakfast when we have buckwheat cakes

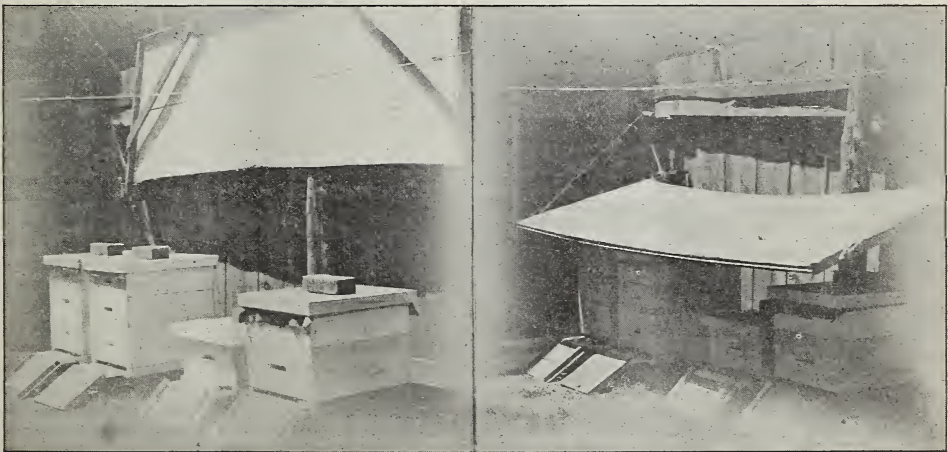
We have some  $5\frac{1}{2} \times 6\frac{1}{2} \times 1\frac{1}{8}$  sections. These do us all day.

Honey takes the place of beefsteak with us we not having had a pound of beef in the house in four years. I like comb honey, and had trouble to get honey enough to eat before keeping bees. I tried the extracted; but what I got had a metallic taste that I did not like. I suppose it was corn syrup. I am a railroad engineer, with a farm. I had a few bees when a boy at home on the old homestead; and when I got a place of my own I got some bees before I had a chicken.

A. C. ARMSTRONG.

Warner, N. Y., Jan. 23.

[There is no question at all that honey is a strong food, and would, to a very great



AN ARRANGEMENT FOR SHADING HIVES.

additional swarm, this latter having one of the Caucasian queens sent out by the Agricultural Department. From the first hive I took off 36 pounds of comb honey; from the second, 44, while many of my neighbors got

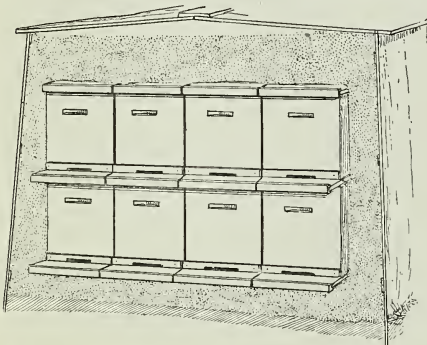
extent, take the place of beefsteak; but say, friend Armstrong, your family breaks the record as honey eaters. Can't you give us the secret of stimulating the honey appetite in the average consumer? If every one

ate honey as your people do, there would not be enough to go around, and the price would go a soaring instanter.

Say, we should like to have a photograph of your family. Of course, we assume that its members are healthy; and if you will go to the photographer and get a group picture I shall be glad to introduce you to the bee-keeping world as a sample of what honey can do when used largely as a diet.—Ed.]

#### WINTERING COLONIES BETWEEN SAWDUST WALLS.

The diagram I am sending you will show you my arrangement for outdoor wintering. Our climatic conditions are generally very damp, as we have a low wet country. You can see how I secured the entrance. I cut



a square hole,  $\frac{1}{4}$  inch each way, in the slat. Is the ventilation sufficient? Will the sawdust plan work in a damp climate?

Vanduser, Mo., Nov. 4. W. JOHNSON.

[Sawdust answers excellently for a packing-material, and the only objection to it is that it is a little too dense; and if moisture should get into it it would not dry out like chaff, straw, or other equally loose material. Ordinarily you will find it more practicable to pack each hive separately, as you will find it will be a big nuisance to unpack next spring, and the bees will be very much confused when set on their summer stands. Of course, you could not work them where they are, all summer.

If you mean an entrance  $\frac{1}{4}$  inch square it is too small. However,  $\frac{1}{4}$  is all right when the other dimensions are eight or ten inches.—Ed.]

#### POLLEN-GATHERING IN JANUARY.

For 40° north latitude we have been experiencing a remarkable fall and winter. October was moderately cool, but no killing frost occurred till the 18th, and the bees worked freely on the asters up to that time. November was cool, but not cold. December, while not literally "as pleasant as May," was little colder than the average November. January was almost uniformly mild, the lowest temperature recorded being 4 above zero

on the morning of the 9th. The weather soon moderated, being warm enough on the 15th, 18th, and 20th for the bees to fly. On the 21st and 22d the maximum temperature was 70 and 71 respectively, smashing all previous records of the Weather Bureau for January. The bees flew as freely as in springtime, carrying great loads of pollen from the maples. I opened several hives, and, notwithstanding the fact that no smoke was used, scarcely a bee attempted to rob or sting. The 27th, 29th, and 30th were likewise warm enough for the bees to fly.

February gave us a taste of genuine winter, starting in cold, the minimum temperature from the 5th to the 11th inclusive ranging from 2 above to 9 below zero. On the 12th it again moderated, giving us a week of very seasonable winter weather. To-day (20th) is a typical April day, with thunder and showers succeeded by sunshine, a temperature of 58, and bees cleaning house and having a general jubilee. So far this winter we have had but two snowfalls of any consequence.

As nearly as I have been able to observe, my bees are in prime condition, having some brood but plenty of stores yet.

But there's another week of February, with March yet to hear from, which suggests the old darkey's comment, "I have of'en observed that when I libs fru the month ob Ma'ch I allus libs fru de hull yeah."

Zanesville, Ohio.

E. W. PEIRCE.

#### WHY THE HONEY CANDIES.

I send you a small bottle of honey, extracted last fall, after being thoroughly ripened and capped. This was at the bottom of a six-gallon firkin that we have been using from since extracting till now. I have another firkin of the same size, extracted at same time, that I examined to-day, which which was granulated very little. Do you suppose this one granulated most because it was somewhat stirred by dipping out with a spoon to fill a vessel to be used from? This honey was gathered from white or tulip poplar, sourwood, persimmon, white clover, goldenrod, and possibly a very small amount of a few others.

B. L. FISHER.

Rocky Mount, Va., Feb. 17.

[It sometimes happens that honey will candy in one can and not in another. I have investigated this matter not a little, and find it to be a fact that, out of the same extracting, one lot will cloud up while the other will remain clear; but investigation usually shows that the one that is solidified has been subjected to the operation of dipping a spoon down into it, or drawing some honey from it. Bee-keepers have shown me two lots of the same extracting, stored in the same room, and subjected to precisely the same treatment, that is, neither had been agitated; yet one would be clear while the other was candied solid. This is yet to be explained.

Some two years ago we tried the experi-



ment of *hastening* granulation, and we proved conclusively that, of two lots of honey out of the same receptacle, the one that was stirred or agitated considerably would candy much sooner than that which had not been so treated. This agitation theory explains why extracted honey, or honey out of the comb, will assume a solid condition sooner than that of the same honey in the comb. It is easy to see why this is so, because the former has been subjected to the violent action of the centrifugal force—a force that slams the honey violently against the sides of the can in a way that makes one think of a hard beating rainstorm. Then as it is agitated by running down the side of the extractor and out through the faucet it is further conveyed into big vats or cans, then further agitated by being drawn off into shipping-receptacles. On reaching the dealer it will be redrawn off into retail packages. As a result, it has received all kinds of mixing and stirring that honey in the comb does not have at all.—ED.]

#### A QUESTION.

Will some one who knows please tell through GLEANINGS how to tell the age of a queen? W. R. CLOVER.

Clinton, Ind., Feb. 5.

[It would be a little difficult to tell how you could recognize an old queen from a young one. I might say, in a general way, she has an "old" look. She does not have that bright crisp appearance that a young queen has; and sometimes there is a dingy hoariness about her not seen on a young queen. But let me tell you it is not always possible to distinguish young queens from old ones. I have seen even experts fooled. Better not rely on appearance, but clip your queens each year in such a way that you can determine in which year they were clipped. In this way you can determine the age of a queen. For example, in 1906 cut off the wings on one side square. In 1907 make a slanting cut, the point of the stub being next to the wings not clipped. Then the year following, cut on the other slant so the point will be in the opposite direction or outside of the queen. Usually this would be about as far as we need to go; but we can make it six by taking the opposite pair of wings.—ED.]

#### STARTERS FOR WIRED FRAMES.

Is it practical to wire frames when using starters? I want wired frames for extracting, but it is difficult to use full sheets and avoid a second prime swarm during buckwheat honey-flow in August.

Newfield, N. Y.

W. L. HINE.

[It is perfectly feasible and advisable, I may say, to wire frames, even when starters only are used. The natural comb built below the starter will be built over the wires.—ED.]



#### HIGH-PRESSURE GARDENING IN WEST FLORIDA.

South of Manatee, just before I reached Mr. Bannehr's, while picking my way along a low muddy place in the road I happened to glance over to the left, and my eye caught sight of something so entrancingly beautiful I could for the moment hardly persuade myself it was real. It was a celery-farm of about three acres newly started. The foliage was greater in quantity than I ever saw before, and the rich luxuriant green, bordering on golden, that indicates perfect health of the plants, covered every portion of the entire field. There were no poor spots and no *better* spots; it was all uniform, and in every stage of growth, from the little plants that look like stars (in such straight rows) across the jet-black mucky soil—it was all the same. It was a wet place, and the water was taken off by open ditches perhaps from two to three feet in depth, and, say, every two rods apart over the whole field. I suppose these ditches can be closed so as to raise the water and give sub-irrigation whenever the plants lack moisture; but with the abundant recent rains the main thing has been to take the excess quickly out of the way.

At one point, where the plants were immense in size, they had commenced bleaching with boards. This is done with cypress lumber, almost clear stuff, a foot wide by 16 feet long. The black soil had been cleared of every bit of growth and trash, the ground was leveled as flat as a floor, with grade enough so the water from excessive rains would all go off into the ditches, and every part of the work was done with a mathematical precision that astonished me. When I questioned friend Bannehr he replied:

"Yes, they have in one sense made a wonderful success of that celery-farm. I think it is generally admitted it is one of the finest in the State; but they spent a pile of money doing it. Clearing out the big trees, bushes, roots, clumps, and all, cost a lot, the ditching a big sum more, and, after that, hundreds of dollars have been spent on fertilizers to produce this magnificent growth. It now only remains to see if they can sell the crop for enough to pay for all this outlay."

Well, whether it pays or not I am glad somebody has given us an object-lesson that shows what is really possible in the line of "high-pressure gardening." If money must be wasted in experiments, I like to see it wasted in this way. But we are not sure it is wasted. Later on I learned of a man

who sold celery from a single acre to the amount of \$3300. This was on Terra Ceia Island, near Braidentown. This island is, almost every foot of it, under "high-pressure gardening." Wouldn't this sum warrant a pretty good outlay?

Later, through the kindness of friends Rood and Lathrop (brother of Harry Lathrop), of Braidentown, I saw some more "high pressure." Six years ago, when I visited E. B. Rood he was experimenting with strawberries; and a few days ago I found him "still at it." In a region where nobody supposed that strawberries could be grown, until he showed to the contrary, I saw more green and ripe berries on the plants than I ever saw before in *any* State in the Union—that is, for the size of the plants. In the North, where we plant 2×4 feet, and keep the runners off, of course we have in time immense hills; but here in Florida they plant much closer—2 feet by 8 inches—and, if I am correct, set new plants every year. With this close planting the plants can not be of great size; but the berries on some plants literally hid the foliage. As mulching to keep the berries out the dirt is a rather hard matter, the most of friend Rood's three acres is not mulched; but his berries are all carefully washed before being put into baskets. They are then taken right to the fruit-stores and sold at once. I was with him when he took in one lot, and his customers were sold out and waiting for his morning installment of fresh berries. Of course, mulching must be followed with berries that are to be shipped. The variety grown mostly by friend Rood is the Excelsior. It is rather tart, but a little sugar fixes that. I asked him how it was that he had the only strawberries in that region. He answered something like this:

"Friend R., the rest of the people have not learned how I have been years studying and experimenting. I once sent north for 2000 plants, and did not get a quart of berries from the whole lot. I had so many failures I was about to give up, and *should have done so* had it not been for my wife. I think I could *now* grow strawberries anywhere in Florida."

Now, friends, there are two or three big morals in that speech. His good wife had more sense and *grit* than he had, and the trouble with a whole lot of you is, you have not any wives.

Again he (and his wife) learned the trade by slow and gradual steps just as my friends the Wright Bros. learned how to fly. (I have got a lot to tell you about them soon. They have sold to the French nation the right to *France*, but not to the whole United States, as many of the papers have it.).

Friend Rood has done the same with peaches as with strawberries, and the peaches are so fine he sells his whole crop in strawberry boxes at 10 cts. per quart in his home market. I saw more peaches on one tree than I ever saw in the North. This year the tree got puzzled to know when to bloom, and they commenced in December,

and have kept it up more or less until now; consequently he has peaches of all sizes on the same tree, and blossoms too. Some of the fruit is nearly the size of an egg, and some just out of bloom. With his nice double-seated buggy and big stout horse he took us all over the suburbs of the brisk and growing county seat of Manatee County. Braidentown has grown so much in six years I should never have recognized it. Out in the suburbs we found guava-trees loaded with fruit; some just ripening, Feb. 14. We found also loquat, or Japan plums, loaded with luscious ripe fruit; oranges, grape fruit, kumquats, etc., were so plentiful I hardly need mention them.

When a friend and I walked up from the railroad station we found our overcoats and grip rather burdensome, and I suggested we leave them until we hunted up Mr. Rood, at a baker-shop near by. As we opened the door to go out I thought the proprietor's face looked familiar. Sure enough, it was my old friend Trueblood, who used to be a bee-keeper, and took GLEANINGS years ago. Well, friend T. and his good wife have built up quite a business in the growing town, and one of their specialties is a 15-cent lunch—coffee, sandwich, and a little pie. Should you ever go there, tell them you want a 5-cent pineapple pie, such as A. I. Root wrote about. When pineapples are plentiful and cheap they put them in cans, and use them for pies as wanted; and I think pineapple is the very best "pie timber" in the world. The pies are not only delicious, but, as they make them, they are wholesome. I know, for every meal I had in Braidentown was at the bakery, and at my special request it was cereal coffee, beef sandwich, and pineapple pie. Mrs. Trueblood was at one time a missionary in Alaska for four years.

In the afternoon, under the guidance and courtesy of W. U. Lathrop, a comfortable carriage with color-d driver took us over the truck-farms and orchards round about Palmetto. Our older readers will remember I have always been a good deal of a lettuce crank; but on this trip I saw more *acres* of lettuce than I ever saw before in my life. There are not only acres, but *miles* of lettuce. It seemed to me there could hardly be people enough, who loved lettuce, in the whole United States to take all this great crop. But I was still more astonished to learn that just now, owing to the large amount that was drowned out by the excessive rains in December and January, the price is away up. It is packed in tall basket-looking crates, holding about 1½ bushels, and the demand is such that growers are getting between \$5.00 and \$6.00 per crate. The variety is Boston Market, or something very near like it; and for fear of a decline in prices, a good deal is being shipped that is not headed up so as to make really first-class heads; but such is the call that growers are surprised at the size of the remittances, and no complaint is made. I am inclined to think the craving for lettuce, celery, etc., in the



winter time, is nature's prompting, and that these things are really beneficial, and, may be, ward off the necessity for drugs and doctors.

The best ground for this business is generally covered with a dense growth of trees and underbrush, and that makes it expensive to clear off. One man told us that, to make new land, absolutely clean of stumps and every thing, all at once, costs just about \$100 per acre. The usual plan seems to be, 3 rows of lettuce, about 18 in. apart, then a two-foot alley. This alley is to give room in planting and gathering the crop, and a horse is also used in cultivating in the alley sometimes. Hand cultivators or plows are run in the eighteen-inch spaces. Chemical fertilizers are mainly used, as I suppose stable manure is not to be had. One man makes a shallow furrow between the rows; a second strews in the fertilizer by hand; and a third, with the right kind of hand cultivator, mixes the fertilizer thoroughly with the soil. This past winter has taught pretty well the importance of surface and open-ditch drainage. Few if any tiles are used; but as there is no frost here to make the sides cave in, the ditches are sliced down with a spade, with very little slope. When weeds are allowed to go to seed it is, of course, quite an expense to keep all the open ditches "open" at all times and seasons. Close cropping is followed when the fertilizers are so expensive. As an illustration, one man remarked a crop of lettuce was cleaned from a field we were passing through, the day before. I stopped in astonishment, and exclaimed, "Why, my good friend! you surely don't mean from this nice field of wax beans?" "Yes, sir. These beans were planted between the rows of lettuce; and after the lettuce was off and trash cleaned up we ran the cultivator through, and the beans just spread out during the last night so they now cover the ground pretty well, as you see."

To work on this "high-pressure" plan a ton of fertilizer (costing \$30.00) is often used on a single crop.

Florida cabbage is also away up, owing, we were told, to the fact that the cabbage crop in the North last fall was unusually short. Here in Florida I am told it is no unusual thing at certain seasons to have a 5-lb. cabbage sell for as much as a 5-lb. pineapple. Well, I can say from experience that a nice hard crisp Jersey Wakefield cabbage grown here in Florida is about as nice as a pineapple. We saw fields of cabbage so large they almost went away off "out of sight." Cabbage can be grown here only in winter. This truck-farming can not be well carried on very far away from the railroad and steamboat lines; and good roads to the shipping-points are almost as necessary. Although much time and money had been spent on the roads, we found them in some places pretty bad; but this was on account of the unusual winter rains. The ditches for drainage are usually along the roadsides, and sometimes these are very deep—ten feet or more, making it expensive for bridges to

get into the fields. Of course, a rotation of crops is desirable, and they are just finding out that oranges and other citrus fruits often do well on this ground so good for the truck business.

Now, please don't think I am blundering when I tell you we drove through a grapefruit orchard of 220 acres—23,000 trees in all. Although 170,000 boxes of fruit have been gathered and sold, there is some to be picked yet. Of course, this great orchard cost a lot of money. I think the trees are now about eight years old; and although the crops afford a fair interest on the outlay, the owners have not as yet received what it cost them; but the prospect is fair that they soon will. A lemon-orchard we visited later has a still larger acreage.

Now I have a strange story to tell you. It illustrates how possible it is in this world of ours to find that, through God's wisdom and providence, our enemies may prove eventually to be our best friends in disguise. Most of you have heard of the *white fly* that ruins orange-orchards and other stuff almost the world over. Of late it has been getting into greenhouses in the North, and, unlike the "green fly," tobacco fumes and stems do not seem to trouble it. Well, greenhouse men and gardeners have also been troubled during damp weather with snails, and there has been much talk in our florists' journals as to how to get rid of them. One writer said the best or only way was to hand-pick them at night, with a lantern—they work only at night. In some countries, we are told, snails are such choice delicacies *for food* they are worth their weight in gold. Well, various birds also consider them choice morsels, and this is *why* the poor snails dare not venture out by daylight. Now let us go back to the white fly.

This insect does not eat the orange leaves to do any particular harm, but, like all the family of aphides, it exudes, when feeding, a sweet substance called by bee-keepers honey-dew. This sticky stuff covers the orange-leaves so they can not breathe, and finally gives sustenance to a black tarry-looking fungus that coats the leaves and injures if not kills the tree. Well, Mr. F. D. Waite and one other good man whose name I have lost discovered, about simultaneously, that a Florida snail, if given a chance, would go all over an orange-tree and lick the leaves and branches all off clean of this sooty mold or fungus. All you need to do to "pass them round" is to throw a piece of burlap or phosphate-sack across the limbs or crotch of the tree. The snails can hide under this cover during the day, so the birds can not get them, and here they multiply prodigiously. We saw them by the dozens and hundreds clinging to the orange-limbs. They, with their shells, are about the size of beans. You can pull them from one tree and carry them to another, where they will stay if you give them a sack covering for protection. In fact, they will of themselves go from tree to tree if they can find the shelter from the birds and other

enemies. So eager are the people to avail themselves of this great discovery that Mr. Waite told us they were stealing his snails at such a rate he didn't know but a watch would have to be kept all through their extensive lemon-groves. Scientific men have been sent from the Florida Experiment Station, and just recently the Department at Washington is investigating; and their verdict so far is to the effect that the despised snail is going to bless the whole of Florida by giving the citrus-groves a good old-fashioned "house-cleaning."

A full and scientific account of this discovery will be found in the *Manatee River Journal* for Feb. 9, published at Bradenton, Fla.

#### HOW TO HANDLE BEES WITHOUT VEIL, SMOKER, OR GLOVES; CHAPTER 2.

Some of you veterans rather suspected there would be another chapter, now didn't you? Well, my plan worked beautifully, especially in connection with the outdoor feeding; that is, if I did my work in opening hives when the robbers and all hands were just "scratching gravel" to see who would get most of the feed before it was all gone. I fed about  $\frac{1}{2}$  lb. sugar made into syrup to seven colonies of bees, so it doesn't take them long, especially since they have "learned the trade," to get the feed all into their respective hives. Well, so far (it is now Feb. 12) our queen-rearing has been blocked for lack of drones. I have put drone comb in the strongest colonies, fed regularly, but, although the queen lays worker eggs all around the drone comb, I can't get her to start drones. The weather seems all right, and pollen is coming now in great abundance (60 big loads a minute), yet no drones are started in any hive, with this exception: The Caucasian queen produces some drones in worker-cells, and these drones have been flying for some time; but either they are too few or they are not "the real thing," for my young queens do not get fertilized.

I began inquiring among my neighbors, and finally visited my good friend Jos. W. Bannehr, at Bradenton (twenty miles away), and he told me to look his bees over. He and his family were very busy packing oranges; and if I could find drone brood or eggs, just to help myself. I found a very active colony of nice yellow bees that seemed from their numbers, and the quantity of pollen going in, they might have drone brood. He brought me a smoker and veil (with arms to it, cape, etc.). but I told him I thought I could open the hive without veil or smoker. Accordingly I went to work very cautiously, thinking a little proudly, perhaps, of my wonderful skill with bees, the accumulated wisdom from "years of experience," etc. There was a top story on the hive, and about the time I got that off I decided it might be best to have the smok-

er lighted and near by. Only *once* before in my experience have I seen bees resent smoke as these fellows did, and that was with our first colony of real Cyprians. I think now I might have got along by working very slowly and carefully without smoke; but just as soon as a whiff of smoke touched these chaps they became regular tigers. They went for my fur cap, and then, while burrowing in the fur, they made that peculiar hissing that bees usually do when they attack any furry animal, and this hissing seemed to be a signal for every bee in the hive to sally forth to war. I think I had better own up that I retreated and got my head into a clump of bushes as soon as I could. I decided these bees must be got out of that fur so as to stop that peculiar hissing, and that I also needed a different "head gear" for such work. While getting the bees out of my cap I was reminded of the little girl's New Testament. She said it was "red outside, and red (*read*) all through inside." These bees were a most beautiful golden yellow all over "outside," and every last one of them was a veritable *fiery demon inside*. I went back in a very humble frame of mind for the straw hat with veil (and sleeves) attached, and fired up that old smoker to its "highest pressure," and was very glad when I got the hive closed up. At some stage of the proceedings, I can't just tell where, it occurred to me I did not want any drones from that hive *after all*, even if they had drone brood. I have for years boasted that bee-stings don't swell on me; but my right hand was pretty well swollen for several days. That "gang" must have a special preparation of formic acid of unusual virulence, and they seem to know it too.

When I got home I could handle my own seven colonies just as usual—no smoke or veil—but that fur cap held so much "virus" or something, I was several times compelled to get a different one. A fur cap is a bad rig for a bee-keeper, sure. It is very much easier to handle any bees, when little or no honey is coming in, while they are busy with an outdoor feeder, and by feeding any colony that is bad to handle, a little sweetened water sprinkled on the frames over the cluster (as Langstroth directs), we can get along very well without smoke. Then comes the question, which is quickest and least trouble? For some time I used the sweetened water, but finally decided the smoker was quicker, and least trouble after all. When every thing is favorable I still work without veil or smoker in my own apiary; but I think we shall find it best sometimes to make an exception. A colony that is raising a queen with no brood in the hive is often very cross; but when the young queen commences to lay, and all hands are after pollen and honey, they usually become good-tempered again. Friend Bannehr says he did not know he had any Cyprian blood in his apiary; but the men who gathered the oranges from the trees over or near that part of the apiary had complained of the bees.



## Regarding Our Advertisers.

That the value of farm fences lies in the quality of wire and in the thickness of the coat of galvanizing with which it is covered, is a point brought out in the catalog of the Brown Fence and Wire Co., Cleveland, Ohio. Note their adv't on another page.

In the J. H. Shumway catalog for 1906 almost every variety of vegetable and flower seed for the garden and field is shown. There must be a very large demand for such an interesting catalog, and any one who would like to secure a copy should send early. The offer to send this book free is made on another page.

The Anderton Manufacturing Co., Cincinnati, whose ad, appears on another page, makes a very fair proposition to any one who is interested in vehicles. Their guarantee in which they offer to return the amount of the purchase, should an article prove unsatisfactory at any time within two years is a very liberal offer. You will act wisely in sending for a copy of their free catalog.

A low-down wagon is certainly just what every farmer should have—bee-keepers too. A low wagon on which a flat platform can be placed would be a pretty useful thing when moving hives. The fact is, the low wagon is better adapted than the high to almost all the occupations of the farm. If you are interested, see the Electric Wheel Co.'s ad. on another page, and take advantage of their free-catalog offer.

The Bateman Mfg. Co., Box 120, Greenloch, N. J., manufacture farm implements which help. They also send out free on request, a book on crop raising which is very instructive and useful to the farmer. By reading such books and keeping in touch with the leading farm methods, farmers become more successful—glean new ideas. Such information can not help to do good. Write for the "Iron Age" book.

To conduct a strawberry-farm, a correspondence school of strawberry culture, and publish *The Strawberry*, a strawberry magazine, is the great task which the R. M. Kellogg Co., Three Rivers, Mich., is accomplishing. In each branch of the work the Kellogg Co. excels, and to this may be attributed their success. Summing up the whole would be to say that they know strawberries. If any of our readers are interested in the culture of this luscious fruit, we advise them to send for a copy of *The Strawberry Magazine*.

We have received three very fine catalogs from the Manson Campbell Co., Detroit, Mich. The titles of these catalogs are Chatham Incubators and Brooders, Chatham Fanning Mills, and Chatham Corn Graders. All are neatly printed, profusely illustrated, and extremely interesting. Any one who is interested in poultry-raising or farming should send for one or all three. These books are for free distribution, as you will see by reading the Manson Campbell advertisement on page 309.

So great has grown the demand for the numerous varieties of evergreen trees that Mr. D. Hill, proprietor of the Dundee Nurseries, Dundee, Ill., makes a specialty of them. He imports evergreens from Russia, Switzerland, Japan, Australia, and from every country where any kind of evergreens is found. Any one contemplating the planting of evergreens, or buying nursery stock of any variety, should write for Mr. Hill's new catalog. It will be sent on request.

The J. W. Miller Co., of Freeport, Ill., manufacturers of ideal incubators and brooders, send out a very interesting book entitled "Poultry for Profit." One of the unique and interesting features of this book is that a number of questions, which a person contemplating going into poultry-raising would be likely to ask, are clearly answered. It also contains many fine illustrations of standard-bred fowls and a review of the principal points of each of the breeds shown. This book is for free distribution, and will be sent at your request.

The Elkhart Carriage and Harness Manufacturing Co., Elkhart, Ind., offer to send a 256 page carriage, harness, and light-wagon catalog free upon request. We have received one of these catalogs, and wish to compliment this company upon its attractiveness and simplicity. Every possible way of showing up a car-

riage or set of harness that could be used is shown in this catalog. The Elkhart Co. make a very fine grade of vehicles, and their catalog will be found a very useful book for every one of our readers. See their offer in ad. on page 311.

The Stromberg-Carlson Telephone Company, Rochester, N. Y., has prepared for free distribution a farm telephone encyclopedia containing 47 pages. Every point from how to go about to organize a telephone company to selecting the telephone supplies and how to build the line, is covered. Many of the pages are finely illustrated—some in colors. There is a four-page telephone story in the book, which is quite a novel. It is quite impossible to give you an idea of how complete this book is; but, luckily, you can get one free by writing the Stromberg Carlson Company. Whether you have a telephone or not, send for this book, No. 36.

Our readers will find in this number a new advertisement of the Joseph Horne Co., Pittsburgh, Pa. This company operates one of the large eastern drygoods houses, and has a very high reputation for first-class goods. We are continually striving to secure advertisements such as this for GLEANINGS, as we believe that our readers desire it. You can greatly assist us in getting new advertisements like this one by ordering whatever you may need in the line of the goods offered, from the advertiser. Of course, when you write do not forget to mention GLEANINGS. See the advertisement referred to on this page.

## Joseph Horne Co. Pittsburgh, Penn.

### New Imported Organdy, 30c a Yard (40c and 45c Grades)

A short time ago we made two of the largest importers of French Organdies in the United States an offer for their entire importation of Organdies.

They have just accepted our offer.

The organdies are here—a bewilderingly beautiful collection of filmy fabrics for summer season of 1906. White grounds and black grounds with exquisite printings in large and small designs of various colors. In all large dry-goods stores throughout the country to-day these goods are selling at 40 and 45 cts. a yard.

### News of Art Needle Work

Some examples of popular things at popular prices  
Stamped hats, for working with eyelet or shadow embroidery—the daintiest hat a summer girl could wear. 50c and 65c each.

Stamped Shirtwaists—sheer linen and very fine lawn, to be worked in shadow or eyelet embroidery. Sufficient material for the waist included. \$1.50 and \$2.00 each. Nothing more dressy.

Stamped and tinted Sofa Pillows—floral, conventional, lodge designs, on art ticking. 25c and 50c.

Lawn and Empire Shams and Scarfs—beautifully braided and stitched; some with net centers and scalloped edges, others with hemstitched edge and insertions of Renaissance braid. 25c.

Ruffled Bureau Sets—made of dainty colored cretonne; plain white ruffling; lining to match coloring of scarf. 50c value for 35c.

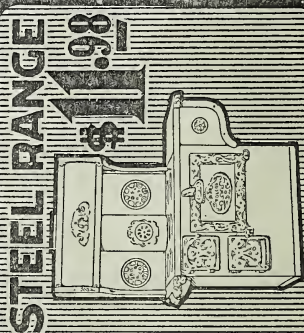
Finished Table Covers and Cushion Covers—beautifully tinted and braided in floral designs; ready for use. 50c value for 25c.





**OAK  
HEATER** \$3.90

fed in every particular or the purchase price will be refunded. Before you buy a stove send for our large free 1,000 page merchandise catalog. It contains hundreds of **handsome stove bargains** not to be found anywhere else. No matter what sort of a stove you want we have it—**freight paid**—will lay it down at your depot cheaper than you can buy it from your home dealer, or anyone else. And our guarantee makes you safe. You may order any stove shown in this advertisement or in our large catalog; if it isn't **just as we claim**, ship it back; we will pay freight and you won't be out a cent by the deal. Hundreds of farmers have purchased stoves from us and have all been



**STEEL RANGE** \$11.98

## STOVES FREIGHT PAID

We are the largest stove dealers in this country selling **direct from the foundry to the purchaser FREIGHT PAID**. Our immense stove business is all done by mail, and is built on the solid foundation of **satisfaction or money back** in every case. Every stove we sell is fully warranted and broadly guaranteed, and the purchaser must be satis-

## HARD COAL BASE BURNER

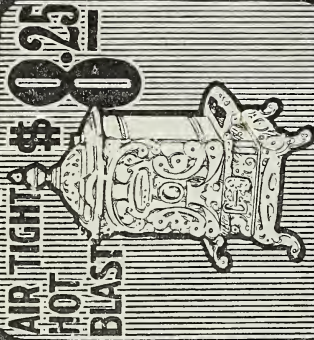


don't have to figure on the freight. You just send the amount of the purchase price and we deliver it to your station—you simply haul it home. If you don't find a stove in this advertisement that suits you, **send for the catalogue**; it is the greatest buyers' guide published; it will show you an easy way to **save money** on all your household supplies

—tells how to make every dollar that you spend do more than double duty.

If you want to save \$50 to \$20 a year, ask us for full particulars about our special **freight paid** plan. We'll send you a list price on everything you buy by this plan. Write for it today.

Co-Operative Society of the National Supply Co.,  
Lansing, Mich. Chicago, Ill.



**AIR TIGHT  
HOT  
BLAST** \$8.25

more than pleased with their gains and recommend us to their neighbors—that's the secret of our rapid growth. You will do the same. When you buy a stove of us you know just what it is going to cost you; you don't have to figure on the freight. You just send the amount of the purchase price and we deliver it to your station—you simply haul it home. If you don't find a stove in this advertisement that suits you, **send for the catalogue**; it is the greatest buyers' guide published; it will show you an easy way to **save money** on all your household supplies



**COOK  
STOVE** \$7.75



# Hatch and Brood

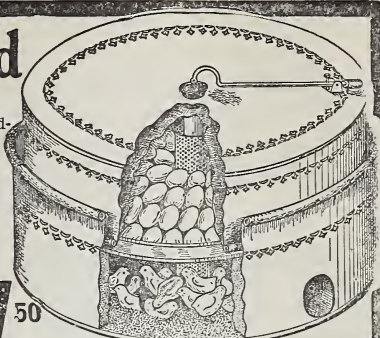
AT SAME TIME

Here's a new thing—a complete hatcher and brooder, one machine that performs both of these operations at the same time and does both well. The

## METAL MOTHER Brooder-Hatcher

is a long step ahead of all others—the most remarkable invention in the poultry world. With it 2 qts. of oil hatches 50 eggs and broods the chicks—brood one batch while you make another hatch. Our nest system enables you to do this. A time-saving, labor-saving, oil-saving machine complete for \$7.50. Free catalog—tells how it works. Regular Cycle Hatchers and Brooders at \$5 each are great favorites. Write today.

CYCLE HATCHER CO., BOX 223, SALEM, NEW YORK



## INVESTIGATE THE POULTRY BUSINESS



Write for a free copy of my book describing

**Profitable Combinations of Egg, Broiler and Roaster Farms**

It gives the prices paid for eggs and poultry week by week for the past three years. It tells how and when a hatch taken off each week in the year could be most profitably marketed. It shows how you can make \$2.00 on a large winter roaster. It tells what profits can be made with each of the popular breeds, and the costs of production.

I have helped thousands to make money with poultry. My Model Incubators and Brooders are used on the money-making farms. It is my business to teach those who use them to do so profitably. Whether your needs are small or large, I will furnish without charge, estimates and plans for a complete equipment that will insure success without your spending a dollar uselessly. Send for my complete literature.

**CHAS. A. GYPHERS**

3927 Henry St.

Buffalo, N. Y.

## BANTA Incubators & Brooders

Backed by 14 Years of Successful Use by

poultrymen all over the world. No guesswork. They are automatic in regulation and ventilation. Fully guaranteed to give YOU satisfaction. Send for free book. **BANTA - BENDER MFG. CO., Dept. 23, Ligonier, Ind.**



## Our Money-Back Guarantee



Every incubator we sell absolutely money-back guaranteed to do all we claim. The 1906 Reliable is the only incubator with double heating system. Free catalog tells all about it. Pure-bred Poultry and Eggs for hatching. Ask for prices.

Reliable Incubator & Brooder Co., Box B-49 Quincy, Ill., U.S.A.

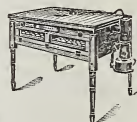
You can't tell a good incubator or a good brooder by looking at them. The only true test is in the Hatching and Raising of Chicks. The machines that Prove Best by that test are the

## IDEAL

Incubators and Brooders.

Made by the man who knows and backed by the J. W. Miller Cos.' guarantee to give you satisfactory results or your money back after 30, 60 or 90 days Free Trial. If you are discouraged try the Ideal—if you don't want to be discouraged try the Ideal. Send for the book "Poultry for Profit"—Free. 128 pages, illustrates and describes everything needed to raise poultry.

Address **J. W. MILLER CO.,**  
Box 48 Freeport, Illinois.



## The Racine Incubator



Built by the man who devoted 24 years to its present perfect development.

We pay the freight

Can be operated by anyone, anywhere. Automatic regulator, copper tank, white pine case, double walled, nursery. Built to last 20 years. Don't buy until you read our remarkable Incubator Book, written by the man who made the Racine. When you learn what he knows, you will want his machine, we think. The book is free. Write for it. Address

**Racine Hatcher Co., Box 114, Racine, Wis.**  
Warehouses: Buffalo, Kansas City, St. Paul.

## Let Me Tell You The Special Price On this Genuine 1906 Chatham Incubator.

If you say so we send it to you at our expense to try 84 days. You see it—you see it work. If not entirely satisfied, return it at our expense. We return your money and ask no questions. Anyway send for free catalogue. Find out about it, then try it. Write today

**The Manson Campbell Co., Ltd. 216 Wesson Ave. Detroit, Mich.**



84 Days Free Trial

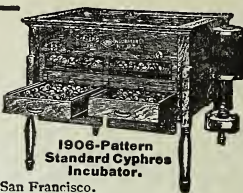
**BIG PROFITS in Farm Poultry**

If you raise it right. Mark the "if" and let us start you right with a new 1906-Pattern

**Standard Cyphers Incubator**

"the sensation of the poultry world;" guaranteed to hatch more and healthier chicks with less oil than any other or your money back. We mean it. 90 days trial. Complete Catalogue and Poultry Guide, 228 pages, (8x11) Free if you mention this paper and give addresses of two near by poultry raisers. Write nearest office.

**CYPHERS INCUBATOR CO.**, Buffalo, Boston, Chicago, New York, Kansas City or San Francisco.



## Take Your Own Time. Old Trusty Incubator

40, 60 or 90 Days Trial.

We want to send you the 'Old Trusty' Book. You ought to read it before buying an incubator, because it has more every-day "chicken sense" in it than any catalog you have ever seen. 300 good pictures. It tells **why** 'Old Trusty' does such good work—**why** it hatches so many and so good chicks—**why** it is so easy to operate—**why** it is so economical. It's sold on 40, 60 or 90 days trial, freight prepaid. Write to us.

M. M. Johnson Co.,  
Clay Center, Neb.

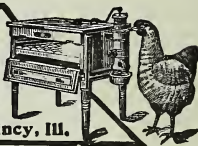


We Pay  
the  
Freight.

## \$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog today.

GEO. H. STAHL, Quincy, Ill.



## The "Kant-Klog" Sprayer

Something New. Gets twice the results with same labor and fluid. All sizes. Flat or round spray from same nozzle. For trees, vines, vegetables, whitewashing, disinfecting, wagons, fire, etc., etc.



Agents  
Wanted.

Circular free.

Rochester Spray Pump Co.,

East Ave., Rochester, N. Y.

**The Fresh Air Incubator**

Fresh Air applied to Artificial Incubation in a new and effective way, making possible higher per cent hatches, brighter, healthier stronger chicks.

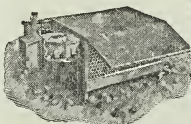
**5 FREE BOOKLETS ON ARTIFICIAL POULTRY PRODUCTION**

1st—The Standard Incubator. 2nd—An Incubator for Beginners. 3rd—Universal Hoyer and Colony Brooders. 4th—Feeding Chicks. 5th—What Users are Doing.



## A PIANO BOX WILL DO

Put the Universal Hoyer into it and make your own brooder. The Universal Hoyer may be attached to any size or form of Colony house, mushroom house, small portable building or piano box and make about as good a brooder as money can buy. Write for catalog and the five books FREE. Others to follow, you'll get them all if your name is on our mailing list.



Prairie State Incubator Co., 414 Main St., Homer City, Pa.

## Deming's Sprayers

are the ideals for many thousand fruit growers. Get the best. Something for every purpose. Knapsack, Hand, Bucket, Barrel, Etc. Also Power Outfits. Every approved device for right working. Agitators, superior nozzles, etc. Send for free catalog. The Deming Co., 230 Depot St., Salem, O. Henson & Hubbell, Western Arts., Chicago.



## WATER GLASS EGGS

Preserve them for many months just as fresh as the day they were laid with

## WILLETT'S WATER GLASS PRESERVER

The only sure way of preserving eggs to sell at high prices. Pure water glass. Cost, about 1c per dozen. Pint, 15c; quart, 25c; gal. \$1. Circulars free for postal. Willett's Water Glass Egg Preserver Co. Box 63, Anderson, Ind.

**Take Your Choice.**

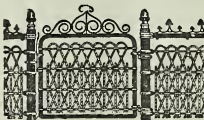
Guaranteed Self Regulating Incubators at \$1 and \$2 per month. Let RENT rent pay for it. We pay freight. Buy on 40 Days Trial or buy parts and plans and build one. Prices, ready to use: \$5.00 up. Free catalog—tells all.

**BUCKEYE INCUBATOR CO., Box 84, Springfield, O.**



**LAWN FENCE**

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Cemeteries and Churches. Address COILED SPRING FENCE CO. Box 448 Winchester, Ind.



**CAPE CURE**

It's Gape that kills off the big hatches and spoils poultry success.

**CONKEY'S GAPE CURE**

guaranteed to cure and prevent or your money back. Try a package. Dealers or druggists or by mail, post-paid, 50c per package. Conkey's big illustrated book on poultry diseases FREE. Send 4c to pay postage.

**G. E. CONKEY & CO., No. 315 Ottawa Bldg., Cleveland, O.**



**Make Your Own Fertilizer**

at Small Cost with  
**Wilson's Phosphate Mills**

From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.

**WILSON BROS., Sole Mfrs.,**  
Dept. Easton, Pa.

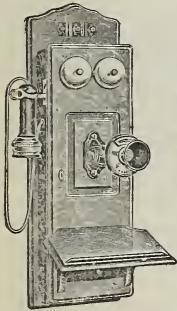




# The Farmer's Wife

## And the Telephone

When considering the advantages of a telephone on the farm, and whether or not to buy one, don't forget the wife. Of course the telephone is a "time-saver" for the farmer, it removes the necessity for so many trips to town, and gives him more time for work, but above all don't overlook the companionship it will afford the wife during the long day when the men-folks are away. It will be a protector to her and a messenger if occasion compels her to call for aid or assistance in a hurry. It will relieve the dry monotony of many a dreary day and drive lonesomeness away. The story is told of a line inspector, out in Illinois, who one day found a woman rocking and knitting, with the receiver of her telephone tied onto her head, so that she might hear all the conversation that passed over the line. That poor woman was not "nibby," she was just lonesome. Hundreds of farmers' wives know what it means to be lonesome — to yearn for companionship. Think what a relief the telephone will be to your wife, what a sense of security it will give her just to feel that she has the entire neighborhood right at her elbow when she wants them.



### Stromberg-Carlson Telephones

are best for the farm, because they are always in order. They are made right, especially for such service, and they stay right.

You can buy cheaper telephones, but they will cost you more in the end. They will be out of fix most of the time and will require constant attention to keep them "working" at all. To make your farm line both practical and profitable, don't experiment with cheap telephones. Buy only the best. We would like to help you to decide which is best; to do that, let us send you our new book, "How the Telephone Helps the Farmer," in which we illustrate and describe the process of making a farm telephone from beginning to finish, taking up particularly the most important or essential parts and showing how we make them and how the cheap fellows make theirs. This will be an object lesson to you that may save you a good many dollars and no little disappointment. It tells how to interest your neighbors in building a line, and will furnish valuable information you cannot afford to be without. It's free—write for it today. A postal will do; just say, "Send me 36-N," and it will come by return mail.

**STROMBERG-CARLSON TEL. MFG. CO.**  
Rochester, N. Y. Chicago, Ill.

## Paint Without Oil

Remarkable Discovery that Cuts Down the Cost of Paint Seventy-Five Per Cent.

A Free Trial Package and a Big Book Telling All About Paints and Paint-Making are Mailed Free to Everybody Who Writes.

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it Powdrpaint. It comes to you a dry powder and all that is required is cold water to make a paint weatherproof, fireproof and as durable as oil paint. It adheres to any surface, wood, stone or brick, it spreads and looks like oil paint and yet only costs one fourth as much. For many purposes it is much better than oil paint and is indispensable to every property owner.

Write to Mr. A. L. Rice, 553 North St., Adams, N. Y., and he will send you a free trial of his new discovery, together with color cards and his valuable book on Painting, all free. This book lets you into all the secrets of paint-making, exposes fake paints, tells you what kind of paint to use for different purposes and shows you how you can save and make a good many dollars. Write today and the book and free trial of Paint will be sent you by return mail.

## Let Us Quote You a Price

### On a FIRST-CLASS FANNING MILL

200,000 CHATHAM MILLS are in use today. They are doing the work. Many of them were sent to these users on the 30 day free trial plan. We will send you one to try, too.

If it does not clean grain and seed, separate the good from the bad, and improve every bushel to your entire satisfaction, send it back and we will refund every cent of your money.

We pay all freight. Now we could not make this offer if we did not know The Chatham will satisfy you.

Anyway, send today for our free booklet titled "How to Make Dollars Out of Wind," a book on good seed, how to obtain it.

THE MANSON CAMPBELL CO. Ltd.  
842 Wesson Avenue, Detroit, Mich.

## SPRAY PUMPS

The Pump That Pumps

SPRAY PUMPS

Double-acting, Lift, Tank and Spray



PUMPS

Store Ladders, Etc.

HAY TOOLS

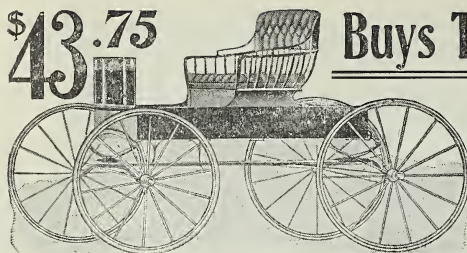
of all kinds. Write for Circulars and Prices.

Myers Stayon Flexible Door Hangers



with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity. F. E. MYERS & BRO. Ashland, Ohio.

**\$43.75**



## Buys This Rubber Tire Wagon

**Union Quality. Fully Guaranteed.** Best hickory wheels;  $\frac{3}{4}$ -in Rubber Tire; long-distance, dust-proof, high arched axles; oil-tempered springs. First-quality material and finish. Worth nearly double our **Factory Price**. We ship for your examination, without a cent in advance, if desired, and allow

**30 DAYS FREE TRIAL**

Money refunded on all purchases not satisfactory. You save dealers' profits. We build 150 styles of Vehicles, from \$26.50 to \$150. 50 styles Harness, \$5 to \$60. Write to-day for our 200-page Illustrated Style Book. Free for asking.

**Union Buggy Co., 45 Saginaw St., Pontiac, Mich.**

**We Make  
We Sell  
We Guarantee**

We are not inviting you to buy a vehicle through a mail order house. We are manufacturers. "Direct" with us means **direct from factory.**

**Three Years Guarantee  
and 30 Days Free Trial**

before you close the bargain. We make the price just about half of others, and even after you have bought, you get your money back without cavil if you find a flaw in three years time. That's the advantage offered. Progressive vehicle buyers. A couple special bargains. Complete catalog tells it all. Don't fail to send for it.

**THE PROGRESSIVE VEHICLE MFG. CO.,**  
Dept O. Ft. Wayne, Indiana.



**No Money in Advance**

Vehicles and harness, a.s. sold direct from factory at lowest factory prices.

**Genuine  
Free Trial.**

No money, no note to sign, no deposit. "Anderton" Vehicles must sell themselves. Two years approval test, backed by \$25,000. bank deposit put up as a guarantee to make you sure of your money back.

Write for our free 110-page illustrated catalogue No. 21. It fully explains our offer.

**THE ANDERTON MFG. CO.,**

41 Third Street,

Cincinnati, Ohio.



**PLOW REPAIRS** FREIGHT PAID  
**Reversible Slip Point for Oliver Plow** **10¢**

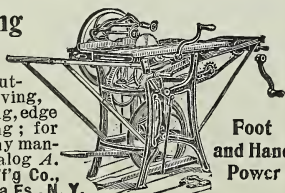
We carry a large stock of plow repairs, for all the leading plows, and sell them *freight paid* cheaper than your local dealer can buy them. Write for catalog and buy your repairs by mail, save time, trouble and money.

Ask for details of how we can save you \$150 to \$200 a year on your purchases—we have a plan it will pay you to know all about.

**Co-Operative Society of the National Supply Co.,**  
Lansing, Mich. Chicago, Ill.

## Wood-working Machinery.

For ripping, cross-cutting, mitering, grooving, boring, scroll-sawing, edge moulding, mortising; for working wood in any manner. Send for catalog A. The Seneca Falls Mfg Co., 44 Water St., Seneca Falls, N. Y.



**Foot  
and Hand  
Power**

## THE NEW WAY TO LAY CARPET

Just out. The perfection of all carpet stretchers and tackers. Loads automatically; tacks are thrown into a little hopper and the machine does the rest. So simple, simplicity is outdone. New Principle Stretcher. Impossible to tear carpet. Stretches heaviest Brussels or Moquette while standing erect. No more backaches, bruised knees or smashed fingers.

### Faultless Carpet Stretcher and Tacker

Has perfect tack cutoff. Feeds one only, always point down. Carpet can be folded in two or three thicknesses, stretched and tacked securely as a single layer. It's a mechanical wonder. Greatest labor-saving device ever invented.

Special Advertising Offer. Send \$1.50 with order and we will include a combination tack puller, cork screw and can opener worth 25¢, free. Write today for descriptive circulars. Agents Wanted. Write quick.

**J. W. QUILLING  
MFG. CO.**  
1140 Hampshire St.,  
Quincy, Ill.

**IT'S  
SO  
EASY**





# I Want to Write You a Personal Letter

## —Will You Send Me Your Name and Address on a Postal Card?

I want to tell you how Split Hickory Vehicles are sold direct to you from our factory—saving you about 40% on the cost of your vehicle.

I want to tell you of our thirty day free trial offer.

I want to tell you of our legal, binding guarantee for two years.

I want to tell you how we were able to build up the biggest mail order vehicle business in the world and of the great reputation we have made on the Quality of our work.

I want to tell you about Split Hickory—and why it is far superior to any other material used in Vehicle construction.

I want to tell you all about our new factory; how the great demand for our Split Hickory Special \$50.00 Top Buggy has forced us to equip an entire factory for its exclusive manufacture.

I want to tell you how we select every piece of material that goes into this buggy—and I want to explain, in detail, the 160 points of merit in the construction of our Split Hickory Special.

I want to tell you *why* it is to your advantage to order from us a buggy *made to your order*—a genuine, trade-marked Split Hickory Buggy—rather than to buy one from a factory making cheap buggies under contract to be sold by mail order houses. Such buggies may seem low in price—but in reality they are the dearest buggies a man can buy.

Our 1906 Split Hickory Vehicle Book is just off the press

I take great pride in the fact that it is the finest vehicle and harness catalogue ever issued by anyone. It contains 180 pages and gives full description and price of over 100 styles of genuine Split Hickory Vehicles ranging in price from \$35 up.

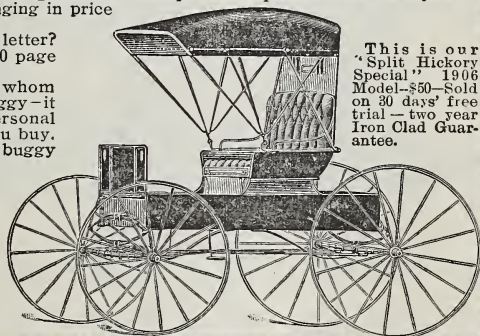
Will you let me send you this letter? Will you let me send you this 180 page book free?

It doesn't matter where or from whom you are thinking of buying a buggy—it won't do any harm to get my personal letter and our catalogue before you buy. You will then know what your buggy *ought* to cost you.

Split Hickory Vehicles are used everywhere. We have thousands of testimonials from every state.

Let me send you this letter, and this new book. Address,

**H. C. PHELPS, President,**  
The Ohio Carriage Mfg. Company,  
Stat on 293 Cincinnati, O.



This is our "Split Hickory Special" 1906 Model-\$50—Sold on 30 days' free trial—two year Iron Clad Guarantee.



**No. 719.** Bike Gear Driving Wagon with  $\frac{3}{4}$  inch Rubber Tires. Price complete, \$55.50. Good as sells for \$25.00 more.

to the consumer exclusively. We make 200 styles of Vehicles, 65 styles of Harness. Send for large free catalog.

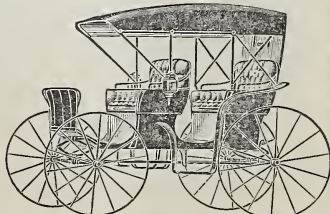
**ELKHART CARRIAGE & HARNESS MFG. CO.,**

ELKHART, IND.

## 33 Years Selling Direct

Our vehicles and harness have been sold direct from our factory to user for a third of a century. We ship for examination and approval and guarantee safe delivery. You are out nothing if not satisfied as to style, quality and price.

**We are the largest manufacturers in the world selling**



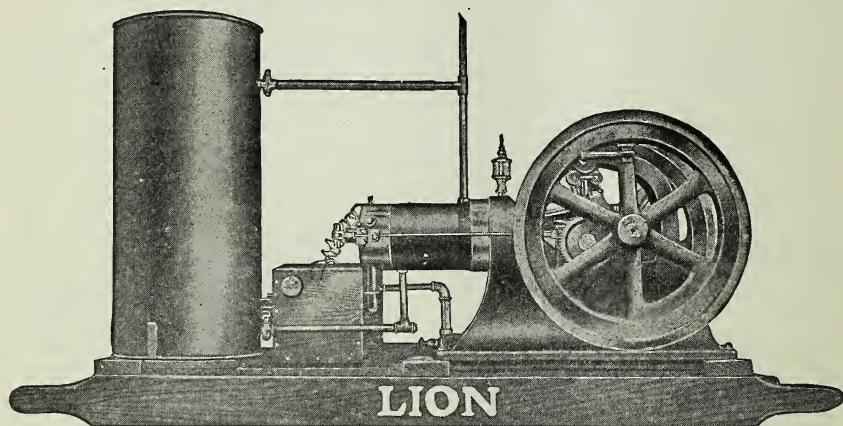
**No. 326.** Extension Top Surrey. Price complete, \$78.00. As good as sells for \$25. more.

# YES! WE ARE SELLING GAS AND GASOLINE ENGINES.

**DIRECT FROM FACTORY TO USER.**

The secret of our success in this field, hitherto unoccupied, is the extraordinary pains we take in teaching the purchasers of "Lion" engines how to operate them intelligently.

**THIS ENGINE IS NO EXPERIMENT.**



The "Lion" Gas and Gasoline Engines are simplicity simplified; they are used for all purposes where power is required, and will be found the most economical in operation.

**WRITE US A LETTER LIKE THIS TODAY.**

LYONS ENGINE COMPANY, Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for.....  
purposes, and wish you to send me full particulars about your approval offer as advertised in "Gleanings in Bee Culture." Yours very truly,

Name..... Town.....  
State..... Street No. or P. O. Box.....  
R. F. D.....

When writing, please state definitely for what purpose you wish to use this engine, and whether gas or gasoline for fuel. This information is very important to us.

Send for descriptive catalog and further information in regard to our special "installment plan" of purchase. If you are thinking of buying a gas or gasoline engine, it will be worth your while to see how cheaply we can sell you a high-grade engine.

**LYON ENGINE COMPANY, Lyons, Michigan**

PLEASE REMEMBER WE SEND THE ENGINE, NOT THE ENGINE AGENT.



## PAGE POULTRY FENCE



Keeps heavy stock out of your poultry yard, and costs less erected than common nettings. Made of the same strong quality of coiled wire as Page Stock Fences, woven in the same practical way—continuous cross bars securely knotted around every horizontal bar, and the whole fabric heavily galvanized. Requires few posts, and no top rail or bottom board; stretches up smoothly on uneven ground and never sags, bags or buckles. A complete line of Lawn, Park and Stock fences constantly on hand. Write for descriptions and comparison of costs.

Page Woven Wire Fence Co., Box 549, Adrian, Michigan.

### COILED SPRING

## FENCE

Closely Woven. Can not Sag. Every wire and every twist is a brace to all other wires and twists full height of the fence. Horse-high, Bull-strong, Pig-tight. Every rod guaranteed.

### 30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. Our Catalogue tells how Wire is made—how it is galvanized—why some is good and some is bad. Its brimful of fence facts. You should have this information. Write for it today. Its Free.

**KITSELMAN BROS.,**  
Box 21 MUNCIE, INDIANA



### FENCE Strongest Made

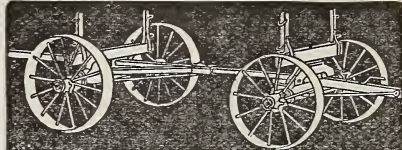
Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today

**COILED SPRING FENCE CO.**  
Box 101 WINCHESTER, INDIANA

### BROWN PAYS THE FREIGHT

#### HEAVIEST FENCE MADE

All No. 9 Steel Wire. Well Galvanized. Weights 1/2 more than most fences. 16 to 35¢ per rod delivered. We sell all kinds of fence wire at wholesale prices. Write for fence book showing 110 styles. The Brown Fence and Wire Co., Cleveland, Ohio.



### WHAT DO YOU SAY?

Several hundred thousand farmers say that the best investment they ever made was when they bought an

### Electric Handy Wagon

Low wheels, wide tires; easy work, light draft. We'll sell you a set of the best steel wheels made for your old wagon. Spoke united with hub, guaranteed not to break nor work loose. Send for our catalogue and save money.

**ELECTRIC WHEEL CO.,** Box 95 Quincy, Ill.



### EXTENSION AXLE NUTS CURE WABBLES.

Make old buggies run like new. Quick sellers. Very profitable for agents. Exclusive Territory. Hardware Specialty Co., Box 555, Pontiac, Mich.

### HERE IS A WINNER.

|                                                                                 |       |
|---------------------------------------------------------------------------------|-------|
| The Modern Farmer and Busy Bee.....                                             | \$ 50 |
| American Bee Journal (new subscribers).....                                     | 1 00  |
| Farm Money Maker .....                                                          | 50    |
| Agricultural Epitomist .....                                                    | 25    |
| And your choice of Langstroth on the Honey-bee,<br>or A B C of Bee Culture..... | 1 20  |

**All for \$1.85.**

**\$3 45**

The American Boy, the Cosmopolitan, or Pearsons, may be substituted for A. B. J. Ask for other substitutes. We can save you money on any paper. Let us have a list of what you want. Address quick, **THE MODERN FARMER**, 307 N. 3d Street, St. Joseph, Mo.

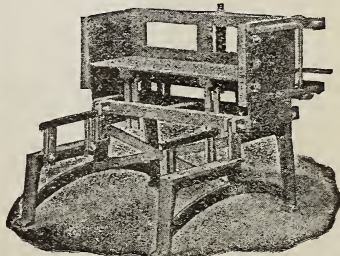


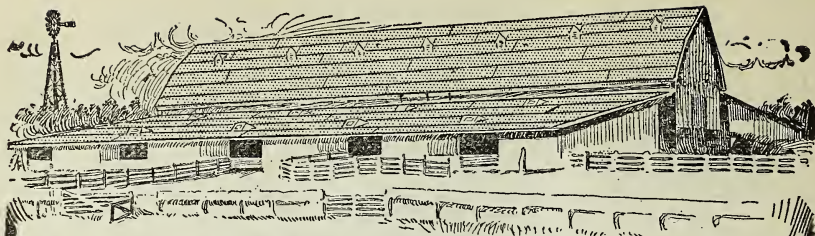
makes from 25 to 35 blocks. Write for descriptive circular and list.

**Medina Concrete Company**  
Medina, Ohio

## These Blocks

were made on one of our \$50 concrete building-block machines. Prices range from \$50 upwards. Every machine complete with all parts ready to go to work, and guaranteed to give satisfaction. Two men make from 100 to 150 of these blocks per day. One barrel of Portland cement





## Roofed With Paroid Roofing

Many of the largest farm and poultry buildings in the country as well as government and railroad warehouses, factories, etc. are now roofed and sided with Paroid Roofing. The above illustration shows the largest stock barn in Minnesota, covered with Paroid. In spite of cheap imitations it grows in popularity, because every one who uses it finds it economical, extra strong, durable and thoroughly satisfactory. Make no mistake—get Paroid.

Light slate color; contains no tar; does not crack nor run, does not taint rain water, keeps buildings dry and warm, looks well, lasts long, spark, water, cold, heat, smoke and gas proof. That's why it's so popular.

**Sample Free.** To show you exactly what it is we'll send you a free sample and name of nearest dealer. Investigate now. For a 2 cent stamp we'll send book of building plans for poultry and farm buildings.

**F. W. BIRD & SON, Makers.**

Originators of Free Roofing Kit—fixtures for applying in every roll.

East Walpole, Mass.,

Established 1817.

Chicago, Illinois.

## A Savings Account

Thousands of people are now doing their banking by mail with perfect safety. The U. S. mail, with its free city and rural delivery, brings the strong, liberal savings bank to the very door of every person no matter where they are. You can open an account with this safe bank by simply sending to us

## One Dollar or More,

then add other dollars as you can spare them. Deposits can be sent by Postoffice or Express Money Orders, Check on Local Bank, New York Draft, or Currency by Express or Registered Mail. Your money will earn

## 4 PER CENT Interest,

compounded semi-annually, and will be secured by assets of over

**ONE HALF MILLION**

and the management of prudent and successful business men. . . . Write for particulars.

The SAVINGS  
DEPOSIT BANK COMPANY,  
Medina, Ohio.

A. T. SPITZER, Pres. A. I. ROOT, Vice-pres.  
E. B. SPITZER, Cashier.

## The Big Two of the Poultry Press

go every week to thousands of exclusive readers who buy liberally in the desire to beautify their Rural Homes. . . .

### The Feather

The most conservative and instructive of all monthly journals devoted exclusively to the advancement of poultry culture in all its branches.

### The American Fancier

The great weekly journal devoted to the interest of the business in all its branches, goes continually on Saturday to those most interested in standard-bred poultry.

THE ADVERTISER looking for profitable returns can not afford to neglect the advantages to be gained from the use of the advertising pages of *These Two Journals*.

### Begin Now, the Harvest is at Hand

For special rates send to publishers of this journal or to the home office of the two publications.

The Howard Publishing Co.  
714 12th St. N. W., Washington, D. C.



# BURPEE'S Farm Annual for 1906

"The Leading American Seed Catalogue."

Mailed FREE to all who want the BEST SEEDS that Grow!

This *Thirtieth Anniversary Edition* is a bright book of 168 pages and tells the *plain truth*. With Cover and Colored Plates it shows, *painted from nature*, Seven Superb Specialties in Vegetables of unequalled merit and Six Novelties in Flowers including LUTHER BURBANK'S *New Floral Wonder*. **WRITE TO-DAY!**—the very day you read this advertisement. Mention this paper and address **W. ATLEE BURPEE & CO., Seed Growers, PHILADELPHIA, PA.**



## Klondike FAMOUS Cucumber

For flavor, uniform size, color, and productiveness it is absolutely unequalled.

In addition to this it comes into bearing very early, continuing right through the season until killed by frost. Always straight—*never turning yellow*. Best for the table, for market and for pickling. Large sample packet for only 5c or 1c. for 15c, including copy of our grand new

## FREE BOOK

### "Northern Grown Seeds"

Plants, Bulbs, Fruits and Trees. Contains all the *good things for the Garden and Farm* worth growing at the *right prices*. Don't fail to secure the *Book*. Write today.

**L. L. MAY, St. Paul, Minnesota**



A wonderful big catalog **FREE** Full of engravings of every variety, with prices lower than other dealers. The book is worth a dollar to any one who plants seeds.

Big Lot of Extra Packages Free to Every Customer.

Send yours and neighbors address.  
**R. H. Shumway, Rockford, Illinois.**

## PLANT OUR QUICK-GROWING NORTHERN SEED

You will gain from one to three weeks over your neighbors who plant home-grown seed. Think what higher prices this means. No more labor—no more land—but bigger, earlier crops, and larger profits.

Northern Seed grown in colder climate and shorter season matures much earlier.

**POTATOES** Our Extra Early Petoskey is a marvel. Large, fine, smooth, white. Big yielder; earliest of all. Try some this year and see for yourself. Send 25c, stamps or coin, and get one large seed potato and catalogue (worth dollars to any grower). Complete line hardy Northern Grown Seeds. Catalogue alone free. Write today, while you have this before you.

Darling & Beshan, 73 Michigan St., Petoskey, Mich.



**THE KITCHEN GARDEN**  
JEWELL'S COMPLETE HORTICULTURAL ESTABLISHMENT. Our 3 FREE CATALOGS cover everything that is HARDY in the line of FRUIT TREES AND PLANTS AND GARDEN SEED. The new Jewell Fruit Catalog is the most complete published,—honest descriptions based on 33 years experience in Minnesota. 1906 Free Catalog of Tested Vegetable Seeds now ready. Remember we have a 1200 acre nursery here devoted to fruit and ornamental stock suited to the North. Every tree guaranteed for 2 years.

RELIABLE AGENTS WANTED  
**THE JEWELL NURSERIES**  
Box 12 Lake City, Minn.

## Trees, Plants & Seeds

### THAT GROW

Best quality. Good bearers. Low prices. Apple 4c; Plum and Cherry 15c; Peach 4c; all budded; Concord Grapes 2c; Forest Tree Seed. 12c per 50, a 1000.

**GERMAN NURSERIES**  
Carl Sonderegger, Prop.

Tested seeds very cheap. Freight paid on trees. Catalogue, English or German, free. Write for it today. Address **GERMAN NURSERIES, Box 33 Beatrice, Neb.**



## HOW TO GROW CACTI

is fully explained in the new book just issued, "Cactus Culture for Amateurs," 80 pages, fully illustrated, describes 500 varieties. Tells where found, treatment to produce bloom, soil, how to

graft, how to grow from seed, and where to get all rare Cacti and Succulents, price 25c. 40-page catalogue of Cacti, and nice sample Cactus (named) 10c. E. Texensis (like cut) 25c. Old Man (genuine) 50c. 10 nice Cacti, all different, \$1.00. Circulars free. **The Callender Cactus Co., Dept. 43, Springfield, Ohio.**



## MR. GREEN SAYS

It won't be long now before real spring weather commences.

Now is the time to study my catalog, plan your garden, and buy your seeds. Don't put this matter off a day longer.

I am sure every garden-maker wishes better success than last season. Better seeds and better care will bring this about. I can supply you the seeds. My catalog tells you why. A postal brings it.

**E. C. Green & Son**  
Seedsman,  
Medina, Ohio, U. S. A.

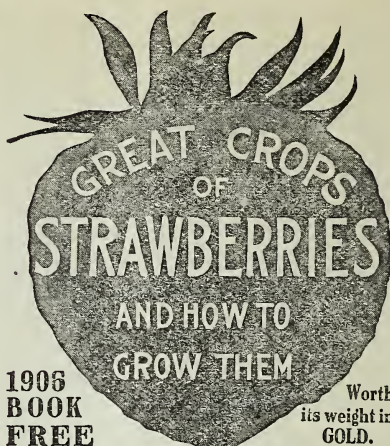


### EVERGREENS AND FOREST TREES

**That are Sure to Satisfy**

I have been growing evergreens and forest trees for 31 years, always with one idea—trees that satisfy. When you buy Hill's trees you get honest value—highest quality. My catalogue is my salesman; it's free. Contains 48 pages illustrated with beautiful pictures; describes all kinds of nursery stock for all purposes—hedges, windbreaks and ornament. Also fruit trees, shrubs and vines. 50 Best Bargains ever offered—\$1.00 to \$10.00 per 100 Prepaid. Everything first-class, guaranteed exactly as represented. Write for catalog today.

**D. HILL, Evergreen Specialist**  
Dundee, Ill.



**1906  
BOOK  
FREE**

Worth  
its weight in  
GOLD.

The Book that beats them all because it tells how big crops of big fancy strawberries can be grown every year and how to pick and pack them for big prices. It keeps Experienced Growers posted on new discoveries in plant breeding and latest cultural methods. It takes beginners through a complete course of instruction; tells just when and how to do everything to get Big Results, and how to start a Profitable Berry Farm with little capital. Beautifully illustrated with photo-engravings. Don't order your plants until you read this book. It is free.

E. M. KELLOGG CO., BOX 400 THREE RIVERS, MICH



## Strawberries

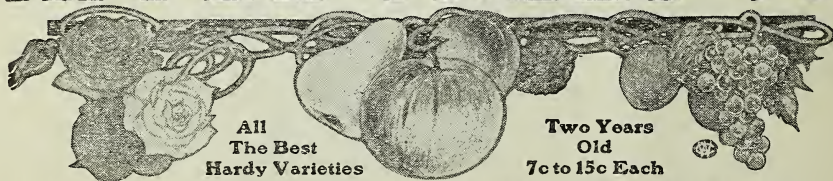
Grown by the pedigree system. Biggest and Best Berries, and lots of them.

**\$2.00 a 1,000  
and Upwards.**

Strawberry plants by the 1,000,000, Raspberries, Blackberries, Gooseberries, Currants, Grapes. All the good old and many choice new varieties. Illustrated, descriptive catalogue giving prices and telling how to plant and grow them. Free to all. For 30 years a small fruit specialist. 250 acres in berries.

**J. T. Lovett, Little Silver, N. J.**

## APPLE TREES 7c



All  
The Best  
Hardy Varieties

Two Years  
Old  
7c to 15c Each

### POPLAR TREES AND ROSE BUSHES, TEN CENTS EACH

ASPARAGUS, the most popular vegetable, yields at the rate of \$400 per acre, two year plants 75 cents per 100; \$1.50 per 1,000. Grape vines and fruit plants at low prices. **POPLAR TREES** for driveways, shade and lawns. The most rapid growing trees, 10c to 17 cents each. **ROSES**. A large collection of hardy varieties, also our Live-for-Ever Pink Rose, 10c to 20c each.

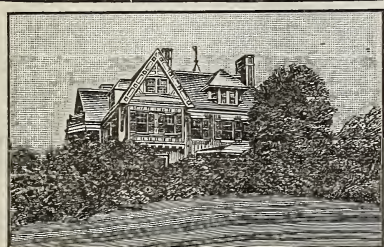
### BUY DIRECT FROM GROWER—SAVE 35 PER CENT

Let us price your list of wants. Green's 1906 Catalogue, also copy of Green's Big Fruit Magazine free. Send postal card for them today. **GREEN'S NURSERY COMPANY, 41 WALL ST., ROCHESTER, N. Y.**



## PIONEER GUARANTEED NURSERY STOCK AT WHOLESALE PRICES

All stock guaranteed disease free and true to name.  
Hart Pioneer Stock is pure bred and produces heavy crops.  
Value received for every dollar sent us. No Agent's Commission.  
WRITE FOR COMPLETE PRICE LIST. WE WILL SAVE YOU MONEY  
**HART PIONEER NURSERIES, Est. 1867 Fort Scott, Kan.**



## 20 HARDY PLANTS \$5.00

### Shrubs and Running Vines

- |                                                                                                                                                                                                                                                     |                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Syringa (Lilac)<br>1 Japan Snowball<br>1 Double Althea<br>1 Double Flower Almond<br>1 Hardy Hydrangea, 4 ft.<br>1 Syringa Mock Orange<br>1 Blue Purple Fringe<br>1 Forsythia Beautiful<br>1 Lilac, white and purple<br>1 Deutzia<br>1 Bridal Veil | 1 Rhododendron<br>1 Azalia Mollie<br>1 Weigela<br>1 Rose of Sharon<br>1 Japan Honeysuckle<br>1 White Star Clematis<br>1 Dutchman Pipe<br>1 Ampelopsis<br>1 Boston Ivy |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

20 Hardy Plants from 4 to 5 ft. tall. This entire collection, only **\$5.00**. Send your order early and we will send this fine collection, worth twenty-five dollars, enough plants to beautify your home, for only \$5.00. It is a great bargain. Order quick and be sure of them.

**NATIONAL PLANT CO., Somerville, Mass.**

### HARDY EVERGREENS

**12  
FREE**

grow them by the million. To prove they are healthy and vigorous we offer 12 Spruces and Pines 2 years old **FREE** to property owners. Mailing expense 50, which send or not. A postal will bring them. Catalog with 43 colored plates of Hardy Fruit etc., free. Write today.

**The Gardner  
Nursery Company, Box 743, Osage, Ia.**

## Strawberry Plants

Virginia and Chesapeake, winners of \$100 GOLD PRIZE offers; also Cardinal, Commonwealth, North Shore, Oaks Early, New York, Glen Mary, Stevens Champion, and 90 others; best list, good stock, fair prices. Dewberries: Lucretia and Austins.

**Seeds** Full line best new and standard old varieties GARDEN, FIELD AND FLOWER SEEDS. New 60 Page Catalogue Free. It tells about good plants and seeds and where to get them. Send now to  
**W. F. ALLEN, Dept. 20, SALISBURY, MD.**

## A WOMAN FLORIST 6 HARDY EVERBLOOMING ROSES On their own roots. 25¢ ALL WILL BLOOM THIS SUMMER.

Sent to any address post-paid; guaranteed to reach you in good growing condition.

### GEM ROSE COLLECTION

Burbank, deep rose.  
Cardinal, bright red.  
Killarney, grandest pink.  
General McArthur, deep red.  
Snowflake, pure white.  
Bouquet of Gold, golden yellow.

### SPECIAL BARGAINS

- |                                                     |      |
|-----------------------------------------------------|------|
| 6 Carnations, the "Divine Flower," all colors, 25c. |      |
| 8 Prize-Winning Chrysanthemums, . . . . .           | 25c. |
| 8 Beautiful Coleus, . . . . .                       | 25c. |
| 4 Grand Orchid Cannas, . . . . .                    | 25c. |
| 8 Sweet-Scented Tuberose, . . . . .                 | 25c. |
| 6 Fuchsias, all different, . . . . .                | 25c. |
| 10 Lovely Gladiolus, . . . . .                      | 25c. |
| 10 Superb Fancy Plants, . . . . .                   | 25c. |
| 15 Pkts. Flower Seeds, all different, 25c.          |      |



Any Five Collections for One Dollar, Post-Paid. Guarantee satisfaction. Once a customer, always one. Catalog Free.  
**MISS ELLA V. BAINES, Box 85 Springfield, Ohio**



OVER FIFTY YEARS of square dealing entitles the dealer to the consideration of all who buy his sort of goods. Reliability and responsibility should always count. Our specialty is and always has been selling direct to the planter, who thus gets the best and pays but one profit. Everything of the best for Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse. Rarest new and choicest old. We

send by mail postpaid Seeds, Plants, Vines, Bulb s, Roses, E. c., and guarantee safe arrival and satisfaction, larger by express or freight. An elegant 1-8-page Catalogue FREE. Send for it and see what values we give for a little money. You will be interested in our extraordinary cheap offers of over half a hundred choice collections, in seeds, plants, roses, trees, etc. 52 years, 44 greenhouses, 1200 acres.

**THE STORRS & HARRISON CO.,  
Box 129, PAINESVILLE, OHIO.**

## SCARFF'S BLACKBERRIES

I grow millions of blackberry plants that yield luscious fruits. All true to name—full of life. They're money-coiners that will yield **\$300 PROFIT PER ACRE**. My handsome, new catalog of small fruits, fruit and ornamental trees, farm and garden seeds and general nursery stock sent free. Get it—write today.  
**W. N. Scarff, New Carlisle, O.**



# 300,000

**PLUM TREES**, two years old, on plum roots, 6 to 7 feet, 15c each; 5 to 6 feet, 12c; 4 to 5 feet, 7c; 3½ to 4 feet, 5c. 250 trees for \$10. Boxings free. Apple trees on French apple roots, 4c to 10c; on American-grown apple roots, 3c to 9c. Liberal discounts on early orders. Millions of Fruit, Shade, and Ornamental Trees. Small Fruits of every description. Secure varieties now, pay in spring. 80-page Catalog free to everybody.

**SHEERIN'S WHOLESALE NURSERIES**, Dansville, New York.



**\$2.25 FLOWERS FOR WORTH 25c**

We send you this grand collection of SEEDS and BULBS for less than the cost of packing and postage, that all may have an opportunity to plant our SUPERIOR STOCK and become one of our yearly customers.

**20 PKts.** 4 pkts. Pansy, Red, White, Blue, Striped  
**Seeds** 3 pkts. Carnation, Red, White, Variegated  
 2 pkts. Sweet Peas 1 pkt. Tree Aster  
 1 pkt. Giant Daisy, Novelty 1 pkt. Show Dahlia  
 1 pkt. Sweet Violets, Hardy 1 pkt. Gladiolus, Hardy  
 1 pkt. Petunia, Primed 1 pkt. Chrysanthemum, Double  
 1 pkt. Brilliant Morning Glories 1 pkt. Orchid Flower  
 1 pkt. Salvia; Red, White, Blue 1 pkt. Verbeena, Sweet Scented

**20 Bulbs** 1 Begonia, 1 Gloxinia, 1 Hardy Lily, 1 Poppy Anemone, 2 Gladiolus, 2 Hardy Climbers, 1 Tuberose, and 11 other Bulbs for the garden, such as Callas, Amari's, Nontretine, etc.

The above 20 PKTS. of SEEDS, 20 BULBS, our new color plated catalogue and a FREE RETURN CHECK giving you your money back, will be sent you by return mail for 25c.  
**J. ROSCOE FULLER & CO., Box 12, Floral Park, N. Y.**

## Send Me 8 cents



and names of 2 flower loving friends. I will start you with 4 packets of pure, fresh seed—Dwarf Nasturtiums—20 kinds; Royal Show Pansies—100 colors; Sweet Peas—40 varieties; Asters—all kinds. FREE—"Floral Culture" and 14th Annual Catalog, with big list of rare seed bargains; also my offer of \$100 cash prizes for pictures of best lawns and yards sown with the famous Lippincott seeds. Write TODAY before you forget.

**MISS C. H. LIPPINCOTT, 633 10th St., S., Minneapolis, Minn.**  
*Pioneer Seedswoman of America.*

A beautiful colored plate of our

**New Eaton Red Raspberry**

and our strawberry catalog of valuable information about varieties with instructions for beginners. Free to all.

**THE FLANSBURGH & POTTER CO.,**  
 Leslie, Michigan.



### THE BEST STRAWBERRY

is Senator Dunlap—large, fine colored, very productive. Catalog of Strawberry and other berry plants FREE.  
**L. J. Farmer, Box 608, Dulaski, N. Y.**



### THE BEST RASPBERRY

is Plum Farmer, early, large, enormously productive. Catalog of raspberry, strawberry and other berry plants free. Write for it NOW.  
**L. J. Farmer, Box 608 Dulaski, N. Y.**

## "The THREE W"

Strawberry; the best for market or home; bears abundantly five weeks; kept at World's Fair ten days; perfect blossoms; large glossy berry; sweetest of all.

**W. A. Mason, College St., Clinton, Ky.**

## Every Strawberry-grower

should have our catalog. It contains information not found in any other. It describes fifty varieties, some of which will interest you. Free.

**M. CRAWFORD CO.**

**Box C Cuyahoga Falls Ohio**

## Sweet Potato Seed

Bright stock; straight from storage; best varieties—old and new. Send for my free descriptive price list.

— ADDRESS —

**L. H. Mahan, Box 143, Terre Haute, Ind.**

## EAR SEED-CORN!

Four of the best varieties for sale. Tested, and guaranteed to show good germination, or your money back. Thirty choice ears for 75c or one bushel in crates for \$1.75. Same price for graded if wanted. If you want good ear seed corn write before it is all sold.

**Yenn Brothers, Riverside, Iowa.**

**SEED POTATOES.**—Early Six Weeks. Early Ohio, Cobbler, Carman, and others. Fine stock at little above market price. List free.

**McAdams Seed Company, Columbus Grove, Ohio.**

**SCHILDER BROTHERS - CHILLICOTHE, OHIO**

We are extensive growers of  
**...ONION SEED...**  
 Write us for our prices.

# 450,000 TREES

200 varieties. Also Grapes, Small Fruits etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price list free. **Lewis Roesch, Fredonia, N. Y.**

## FRUITFUL TREES MILLIONS OF FRUIT AND FOREST TREES

Small Fruits and Evergreens. Russian Mulberry and Black Locust, \$1.00 per 1000. Carefully dug and packed. Freight prepaid on \$10.00 orders. Catalogue free. Fine trees guaranteed.

**Vage County Nurseries, Box 647, Beatrice, Neb.**

**Fruit Trees.**—\$6.00 per 100 and up. Fine assortment of trees, shrubbery, vines, plants, etc. Our ideal soil and climate produce best trees. Well packed; guaranteed against damage in transit. Catalog free.

**CHATTANOOGA NURSERIES, Chattanooga, Tenn.**



Write to  
**The Wood Co., Medina, O.**  
 for prices on CLOVER and TIMOTHY  
 seeds. . All varieties. . Only selected  
 seed furnished.

## Long Island Cabbage Seed

Cauliflower and other choice Vegetable Seeds  
 for gardeners. Catalog and samples free.

Francis Brill, Grower, Hempstead, New York.

**FREE** Flower Seeds, 1000 sorts, new and old, for a  
 big bed, also PARK'S NEW FLORAL GUIDE  
**FREE.** Tell your friends. GEO. W. PARK, La Park, Pa.

## If You Want Root's Goods

I have them at Root's prices.  
 Also A B C of Bee Culture—  
 one of the best books printed  
 on bees. Catalog free. Ad-  
 dress as below.

D. Cooley, Kendall, Michigan

## You Need It. . . . .

If you have only a few chickens;  
 If you are at all interested in poultry;  
 If you are breeding for fancy points;  
 If you cater to the market trade;  
 If you are in the business on large scale, you need

## Ohio Poultry Journal

the paper published in the interest of the farmer, begin-  
 ner, and small breeder, with plenty of pointers for the  
 experienced fancier. Each month is especially edited  
 for the needs of that special season of the year. Regu-  
 lar price is 50 cts. a year, but we offer it **AT HALF PRICE**  
 for a short time to introduce it to readers of Gleanings.  
 Send only 25 cts. and get it a year; or, if you send us \$1  
 for a year's subscription to Gleanings in Bee Culture, we  
 will send you Ohio Poultry Journal for a year free.  
 Address Ohio Poultry Journal, Dept. 14, Dayton, Ohio.

## \$1.00 WILL PAY FOR TEN YEARS!

120 copies and no less than 3840 pages (size  
 8x11 $\frac{3}{4}$  inches) of valuable poultry, pigeon, and  
 pet-stock reading, costing us thousands of dol-  
 lars to procure. Also your name and address in  
 the "Poultry breeders' Directory" for 10 years;  
 revised yearly. Send \$1.00 to-day, and address

**Poultry Item : : Fricks, Pa.**

## DO YOU RAISE CHICKENS?

If so, you will find The Poultry Gazette a  
 welcome monthly visitor to your home. A  
 down-to-date, practical poultry magazine  
 that is the acknowledged leader of all West-  
 ern poultry papers; ably edited; profusely  
 illustrated. Subscribe now, while the price  
 is only 25 cts. a year. If you have poultry to  
 sell, The Poultry Gazette can sell it for you.

The Poultry Gazette, Dept. B, Clay Center, Neb.



### Greider's Fine Catalog

of Prize-Winning Poultry for  
 1906. This book is printed  
 in **several Beautiful  
 Colors** and is larger than  
 ever. Contains a **Fine  
 Chromo** of lifelike  
 fowls. It illustrates and  
 describes 60 varieties of  
 poultry, ducks, geese,  
 pigeons, etc. It shows best  
 equipped poultry yards and houses—how to build  
 houses; cure for diseases; **Best Lice Destroyer**  
 how to make hens lay; poultry supplies and all  
 kinds of information indispensable to poultry-  
 keepers. Prices of eggs and stock within reach  
 of all. Send 10 cents for this noted book.

**B. H. GREIDER, RHEEMS, PA.**

## POULTRY PAYS

if you get the right start, the right  
 eggs or fowls and the right materials  
 to work with. Our complete poultry  
 guide pictures and describes all  
 breeds, gives incubating, brooding  
 and feeding directions. It lists  
**Thoroughbred Fowls and Eggs,**  
 incubators, brooders, poultry ratings  
 and everything needed for profit. All  
 at lowest prices and all guaranteed  
 satisfactory or your money back. Send  
 for **Free Book** for 10 cents postage.  
**American Incubator Co., Box 115, Freeport, Ill.**



## Poultry Magazine,



Monthly, 50 to 100 pages, its writers  
 are the most successful Poultrymen  
 and women in the United States. It is

**The POULTRY TRIBUNE,**  
 nicely illustrated, brimful each month  
 of information on How to Care for  
 Fowls and Make the Most Money with  
 them. In fact so good you can't afford  
 to be without it. Price, 50 cents per year. Send at once  
 for free sample and **SPECIAL OFFER TO YOU.**

**R. R. FISHER, Pub., Box 85, Freeport, Ill.**



## FREE! FREE!

Send for a copy of the IN-  
 LAND POULTRY JOURNAL,  
 and receive a fine color pic-  
 ture free. Cost us \$400  
 costs you nothing. Our pa-  
 per has the admiration of  
 every poultry man. Have you  
 seen it? Well do not miss it.  
 Address  
**Inland Poultry Journal Co.,  
 50 Cord Bldg., Indianapolis, Ind.**

## BOOK ON POULTRY DISEASES FREE

Conkey's book on Poultry  
 Diseases sells for 25 cts. Full  
 of information on housing, feeding, sickness, and  
 how to care for the flock. Will help you to make  
 money. Send 4 cents to pay postage and the names of  
 two other poultry raisers, and we will send you a copy  
 of this illustrated book of valuable information free.

**G. E. Conkey & Co., No. 80, Ottawa Bldg., Cleveland, O.**

**65c** for 25 NAMES—For names and P.O. of 25 farm-  
 ers and 15c (stamps taken) we will send for 2  
 years the Farmer's Call—regular subscription price,  
 40c a year. F. C. is a weekly, 25 years old; 1800 pages a  
 year; sample free. **Farmer's Call, Quincy, Ill.**

----"If Goods are Wanted Quick, Send to Pouder."----

Established 1889.

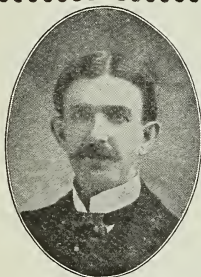
# BEE-KEEPERS' SUPPLIES

Distributor of Root's goods from the best shipping-point in the Country. My prices are at all times identical with those of the A. I. Root Company, and I can save you money by way of transportation charges.

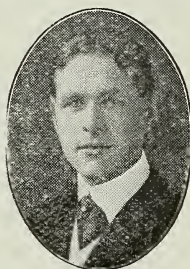
Dovetailed Hives, Section Honey-boxes, Weed-Process Comb Foundation, Honey and Wax Extractors, Bee-smokers, Bee-veils, Pouder Honey-jars, and, in fact,

**EVERYTHING USED BY BEE-KEEPERS.**

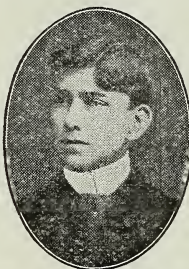
Headquarters for the Danzenbaker Hive.



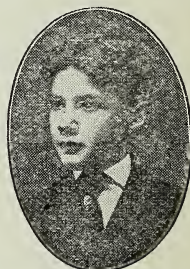
WALTER S. POUDER



OTIS I. MASTEN



A. G. FIELDS



ROBERT R. WOLFE

These are the boys that ship the goods that were made in the house that Root built.

## Conversation with Wilson

"Good morning, Wilson; how are you this morning?"

"I am all right, Smith, except that I have a touch of that rheumatism that always attacks me about this time of the year. Well, Mr. Smith, I have only a few moments to spare this morning and I came over to ask your advice about getting a lot of bee-supplies. I have noticed that your supplies are always nicer than mine. Where would you advise me to send?"

"Send to Pouder, at Indianapolis, by all means."

"But why do you prefer Pouder when I could get my supplies nearer home? You know the woods are full of supply-dealers, and have you noticed what a lot of them are advertising in the bee-papers?"

"Yes, I have noticed all of that, but there are several reasons why I would send to Pouder. You know he handles The A. I. Root Co.'s goods, and you know that means finest quality and more for your money. He fills his orders promptly, and you get a very low freight rate out of Indianapolis. He carries a

## With Apologies to C. M. D.

very large stock of goods, too, and they are bright and fresh from the factory."

"I suppose he makes mistakes in shipping same as all of them do?"

"I suppose he does, but if he does he will make it right with no expense to his customer. That is the way he does business. If you wish, you can trade your wax with him for supplies and he will allow you 30 cents a pound for wax."

"What is his address?"

"Walter S. Pouder, 513, 515 Massachusetts Ave., Indianapolis. Drop him a card and you will get his catalog on return train."

"That is just what I will do, and then I will send in my order. I have heard of this man Pouder before, but we always called him Powder. I do like to have the best of every thing for my bees, especially when the cost is no more than I have been paying. Much obliged to you, Mr. Wilson, and now I will take my cane and hat and go home. 'Manda said to tell you and Mary to come over and eat dinner with us right soon.'"

## BEESWAX WANTED.

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight; always be sure to attach name to package.

# WALTER S. POUDER,

513--515 Massachusetts Ave.,

INDIANAPOLIS, IND.



# PAGE & LYON

## NEW LONDON, WISCONSIN

Manufacturers of and Dealers in

### BEE-KEEPERS' SUPPLIES

2 per cent Discount during March on all Orders Accompanied by Cash.

Send for Our **FREE**  
New Illustrated Catalog and Price List

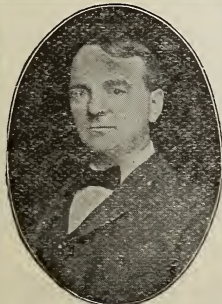
## Dittmer makes a Specialty of Working Beeswax into Comb Foundation

Write for our price list, samples, and early-order Discount.  
We would like to send them to you at our expense.  
Our warehouse is full of bee-supplies.  
Jobbing - Wholesale - Retail.  
Beeswax always wanted.

CUS DITTMER,

--

AUGUSTA, WIS.



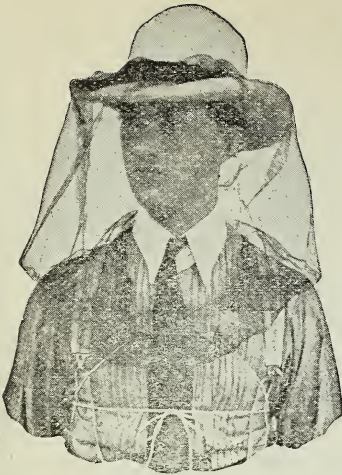
H. M. ARND, MANAGER

**YORK HONEY AND BEE CO.** Not Inc.  
141 ONTARIO STREET : CHICAGO, ILLINOIS

CARRY A FULL LINE OF

**Lewis Bee-supplies and  
Cornell Incubators and Brooders**

and poultry-supplies at factory prices. Write for the 1906 catalog of either or both. Honey for sale. Beeswax wanted; 27 cts. cash, or 29 cts. when taking bee-supplies in exchange.  
Early-order discount, two per cent for March.



# Michigan Distributors

—FOR—

## G. B. Lewis Co.'s Beeware, Dadant's Foundation.

With an enormous stock, and the best shipping-point in Michigan, we are in a position to give you the very best service. Regular discounts allowed.

**SPECIAL.** A quantity of Dovetail and Wisconsin hives, slightly discolored by water, in packages of five at \$1.25 per hive for 1½-story 8 frame; 10 frame, \$1.40 per hive. Satisfaction guaranteed.

**ADVANCED BEE-VEIL.** Cord arrangement, absolutely bee-proof, best on earth. Made of imported French tulle veiling. Cotton, with silk face. **50 CENTS, POSTPAID.**

**A. G. Woodman Co.,**

Beeswax Wanted.

Grand Rapids, Mich.

# Southern Bee-keepers!

If you want bee-keepers' supplies of best quality and for the least money possible, you should buy them from the **WHITE MANUFACTURING COMPANY.** Situated, as we are, right near the great pine belt of North Texas, Louisiana, Arkansas, and Indian Territory, we can secure the best material possible at least cost, thus enabling us to give entire satisfaction. Catalog and price list free.

**White Manufacturing Co.**

**Blossom, Lamar Co., Texas**

## Montana, Minnesota, Dakota, and Western Wisconsin Bee-keepers!

You can save freight by ordering of the St. Paul Branch. We have a complete stock of bee-keepers' supplies. Write at once for catalog and obtain our early-order discounts.

**BEEES AND QUEENS**—Orders booked now for spring delivery.

**HONEY AND WAX**—We handle honey and wax. Write for particulars.

**The A. I. Root Co.**

Northwestern Branch,  
1024 Mississippi Street,

J. C. Acklin, Mgr., **St. Paul, Minn.**

# BEE - SUPPLIES

Distributing-house for Lewis' Goods,  
Dadant's Comb Foundation, etc., at  
Factory Prices.

Every thing the bee-keepers need. No order too large for us, nor none too small. Cash orders before February, 6 per cent discount.

**FINE EXTRACTED HONEY** ❧ ❧ ❧

The best the world can produce. Sample sent, 8 cents. How much can you use? *We always buy beeswax.* Catalog and "Special" free.

**C. M. SCOTT & CO.**

1004 E. Washington St.

**Indianapolis : Indiana**

## BIG DISCOUNT till April 1 ON ALL SUPPLIES

Dovetailed hives, eight-frame, 1½-story, \$1.30; 10-frame, \$1.45. No. 1 sections, \$3.75; No. 2, \$3.25. Foundation, smokers, etc., reduced. Berry boxes, crates, boxes, etc., kept in stock. Honey wanted. Twenty-four page list free.

**W. D. Soper, Rt. 3, Jackson, Mich.**

**PURE ITALIAN QUEENS.**—From red-clover and five-banded breeders. Untested, 75c; select untested, \$1.00; tested queens, \$1.50; select tested, \$2.50. Safe arrival guaranteed.

H. M. PARKER, JR., James Island, S. C.



# Bee-supplies



We manufacture every thing needed in the apiary, and carry a large stock and great variety. We assure you the best goods at **LOWEST PRICES**, and our excellent freight facilities enable us to make prompt shipment over fifteen different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the Alternating, Massie, Langstroth, and the Dovetail hive.

Our prices are very reasonable; and, to convince you of such, we will mail you our free illustrated and descriptive catalog and price list upon request. We want every bee-keeper to have our catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address

**Kretchmer Mfg. Co., Council Bluffs, Iowa**

**BINGHAM**  
Original  
Direct Draft  
CLEAN  
Bee Smokers



Pat'd 1878, '82, '92 & 1903

## Pretty Recognition

A lady to whom I sent a Smoke Engine to order per mail sent this delicate recognition, "I am pleased," and signed her name.

We have made hundreds of thousands of smokers in the last twenty-eight years. They always please and *last*; don't spit fire; don't go out; don't *daub* themselves all over. We are the most extensive *exclusively* bee-smoker makers in the world.

**T. F. Bingham**

**Farwell, Mich.**

Chico, California, October 23th, 1905.

Dear Mr. Bingham:—Enclosed find money-order for a honey-knife and smoker. I can't do business without a Bingham Smoke Engine.  
J. M. RANKIN.

## A Prosperous

Season is yours.....

if you take time by the forelock, and be prepared for the season when it comes. **DON'T** put off ordering your supplies until you need them. Order now, and get the discounts.

I have a full line of Root's Goods, and sell them at factory prices and discounts. Send me a bill of what you want and let me tell you what I will deliver them at your depot for. Send for my 36-page catalog—it will be sent free—also a full description of the Hilton Chaff Hive and Supers, with a comparison made by the Michigan State Agricultural College between the single and double walled hives. All free for the asking. Cash or goods in exchange for wax.

**Geo. E. Hilton, Fremont, Mich.**

## WISCONSIN BASSWOOD FOR SECTIONS

We make them and the very best of Dovetailed Hives, Shipping-cases, and a full line of Bee-keepers' Supplies always on hand. We make very prompt shipments. Let us hear from you.



**Marshfield Mfg. Company**

Marshfield, Wisconsin

## Now is the Time to Plan

for the coming season, and you are bound to need queens to replace those that are old and worn out. Many of my customers have written me that the queens bought of me were the only ones that gave any surplus the past poor season. You had better plan to supply yourself with a lot of those fine young queens from the Laws apiaries, and double your crop of honey.

### I AM BREEDING THE LEATHER AND GOLDEN ITALIANS,

also the Holy Lands. So many calls have come for Carniolans that I have added this splendid race to my list, and there is no doubt that the Carniolan, or the Carni-Italian cross, will cap their honey whiter than any of the Eastern races. I am not only prepared to furnish you with the best bees and queens in existence, but in any quantities, large or small, from one to a thousand queens. Nuclei and full colonies in season. I also offer another car of bees the coming season.

**PRICES:** Queens, each, \$1.00; six for \$5.00. Breeders, each, \$3.00. Write for quantity lots.

**W. H. LAWS, BEEVILLE, BEE CO., TEXAS.**

## Caucasian - and - Italian - Queens



from California

Prices: CAUCASIAN—One tested, \$3.00; one best breeding, \$6.00; one imported from Caucasus, \$7.00. ITALIAN—One untested, \$1.00; six for \$5.50, 12 for \$10.00; one tested, \$1.50; one best breeding, \$5.00. Caucasians bred from the best imported breeding queens. Italians bred from breeding queens we procure from principal breeders of this country who have the best honey-gatherers. Nuclei and full colonies of bees. Send for particulars, and see our adv. in GLEANINGS, February 1st.

**A. E. Titoff, Ioamosa, San Bernardino Co., California**

### All the year round.

We are prepared to supply queens any month in the year. We have secured the services of one of the best breeders, and use select imported stock. Prices as follows:

|                         |        |
|-------------------------|--------|
| Untested Italians ..... | 66     |
| Tested .....            | \$1 00 |
| Select tested .....     | 1 50   |
| Extra select .....      | 2 50   |

We do not guarantee impossibilities, such as sending queens to cold climates in winter, but for any reasonable distance and time we guarantee safe arrival. Write for further particulars.

**A. GOMES CASSERES,**  
15 Orange St., Kingston, Jamaica.

## CAUCASIAN QUEENS!

Caucasian bees are the gentlest of the PROFITABLE HONEY-PRODUCERS. A trial will convince you. Have your queens, both Caucasians and Italians, bred and mated to order, and then you will have what you want. Address

**Robert B. McCain, Yorkville, Ills. R. F. D.**

## Superior Stock

I make a specialty of long-tongue  
Italian, Carniolan, and Caucasian,

Rearing only from best stock obtainable. My Italian queens are unexcelled; my Carniolans and Caucasians from best imported queens. All races bred in separate yards to insure purity. A postal will bring my price list for 1906.

**CHARLES KOEPPEN**  
Fredericksburg, Va.

## Rose Lawn Queens

Leather-colored and golden Italians or Carniolans. Unsurpassed for beauty, gentleness, and honey-gathering. Our location insures absolute hardiness and prompt shipment to any portion of the country. Our apiary is stocked with breeders from the choicest strains in America. Select queens, \$1.00; six, \$5.00. Tested, \$1.50; six, \$8.00. Few choice breeders, 1 yr. old, at \$3.00. Caucasians from imported breeders after June 1st.

**Rose Lawn Apiary, Lincoln, Nebraska**

Frank G. Odell, Proprietor

## Queens by Return Mail

I moved from Ozan, Ark., to Beeville, Tex., to be able to fill all orders for my famous strains of three and five banded bees and queens. Am now ready to fill or book your orders. Untested queens, either race, 75 cts. each or \$8.00 per dozen. Tested, \$1.25 each, \$12.00 per dozen. Select tested, \$1.50 each. Breeders, the very best that money can buy, \$3.00 to \$5.00. Caucasian queens, \$1.00 each. Send all your orders to

**J. W. Taylor, Beeville, Texas**

## Same Old Place

is where you get the best of queens; untested, \$1.00; \$4.25 per 6; \$8.00 per dozen. Tested, \$1.50; best breeders, \$5.00. Absolute satisfaction and safe arrival guaranteed. Carniolans, Cyprians, Holy Lands, Italians.

**The JENNIE ATCHLEY CO.,**  
Box 18, Beeville, Bee Co., Tex.

### ITALIAN QUEENS AND GLEANINGS.

For \$1.10 I will send GLEANINGS one year, new or renewal, and give one of my choice untested Red-clover Queens. Queens sent after May 1st.

**W. T. CRAWFORD, Hineston, La.**

**Queens!** Select three or five banded, \$1.00; tested three or five banded, \$1.25. Ready for delivery April 1st. Write for circular. Daniel Wurth, 1111 N. Smith Street, San Antonio, Texas



# BEES and QUEENS

## The Three-banded Long-tongued Strain of Italians.

We are breeding exclusively the above strain of bees, as from years of experience we consider them the best all-round bees that can be had. We have been making, from time to time, very careful selections for the following

### Superior Qualities.

Honey-gathering, size of bees, non-swarming, docility, uniform markings.

Our selection of bees awarded diploma at the PAN-AMERICAN EXPOSITION for being the best bees there. And we guarantee them the equal of any bees anywhere at any price.

### Quality Our Motto.

1300 colonies to select from.

Untested queens.....\$1.00; 6, \$5.00; 12, \$ 9.00  
Select untested queens..... 1.25; 6, 6.00; 12, 11.00  
Tested queens..... 1.50; 6, 8.00; 12, 15.00  
Select tested queens..... 2.00; 6, 11.00.  
Breeding queens, \$3.00 to \$5.00.

Yours for best service,

**The Victor-Knolle Apiary Co.,**  
Hondo, Texas.

## Pure Caucasian Queens!

Bred in their purity, 1½ miles high at the foot of the glaciers, by Etablissement d'Apiculture Mont Jovet, Albertville, Savoie, France, official breeder for U. S. Government." We supply, too, imported Caucasian queens. Safe arrival guaranteed. Select untested queen, \$2.00; six, \$11.00; twelve, \$20.00. Select tested queen, \$2.50; six, \$14.00; twelve, \$25.00. Full rates on application. English correspondence.

### APRIL 1st

I will commence filling orders for queens. Send your orders early to avoid the rush. I will have nuclei for sale at the following prices, f. o. b. Charleston, S. C.: One-frame nucleus, \$2.00; two-frame nucleus, \$2.50; three-frame nucleus, \$3.00; one colony in Dovetailed hive, \$7.50. If queens are wanted with nuclei, add price of them to price of nuclei. See ad. elsewhere. H. M. Parker, Jr. James Island, S. C.

## QUEENS.

Italian, Carniolan, and Carni-Italian Cross.

Can supply select untested queens at 75c each; three for \$2.00; six for \$3.50. I am now booking orders for early delivery.

**George W. Barnes,**

138 N. Pleasant St.

Norwalk, Ohio.

**IMPORTED - CAUCASIAN - QUEENS**  
are the mothers of my stock. Tested queens, \$3.00 each; untested, \$1.50. Red Clovers, Carniolans, Carpio-Italians: Tested, \$1.50; untested, \$1.00; 6 for \$5.00, 12 for \$9.50. Rev. J. G. Baumgaertner, New Memphis, Ill.

## The Best Results

are obtained from the best queens. Be sure to have the best; it does not pay to have any other.

### "Extra Honey Queens"

are the best and give the best results. They get the honey. Early orders a specialty.

#### Prices

One.....\$1.00      Six .....\$5.00      Twelve ..\$9.00

**Francis J. Colahan**  
**Bernardo, San Diego Co., Calif.**

### Red-clover Queens from Westwood Apiary

will convince you of their superiority over all others. One, two, and three frame nuclei a specialty; also full colonies. Price list sent on application.  
Henry Shafter . . . . . Westwood, Ohio

### MOORE'S LONG-TONGUES and GOLDENS

Select untested queens, \$1.00; six, \$5.00; twelve, \$9.00. Tested, \$1.50; six, \$8.00. Best breeders, \$3.50. Safe arrival guaranteed.

**W. H. Rails, - - - Orange, Calif.**

### H. C. Simpson, Catawba, S. C.

Dealer in

### BEE - KEEPERS' SUPPLIES!

Breeder of Italian bees and queens.  
Root's Goods a specialty.

### A. H. REEVES

DISTRIBUTOR OF ROOT'S GOODS FOR

## NORTHERN NEW YORK

Perch River, Jefferson Co., N. Y.

**PLEASE TAKE NOTICE** that we have purchased the Atchley steam bee-hive factory, and are now putting in up-to-date machinery for making Dovetailed bee-hives and supplies. We earnestly solicit a share of your patronage. We quote prices on two hives for comparison: One two-story eight-frame hive in the flat for extracted honey, complete ready to nail, \$1.25; one story-and-a-half hive in the flat with sections, complete ready for comb honey, \$1.25; self-spacing Hoffman frames in the flat, \$15.00 per 1000. Remember these are standard goods and Dovetailed hives. Get prices on large lots. Dittmer's foundation at Dittmer's prices. We are headquarters in the South for bees and queens—untested, \$1.00 each; \$9.00 per dozen; tested, \$1.50. Full colonies nuclei and queens in large lots our specialty. Send for catalog. **THE BEE AND HONEY CO.,**  
Will Atchley, Prop., Beeville, Bee Co., Texas.

FOR 14 YEARS

# I. J. STRINGHAM

OF 105 PARK PLACE

# NEW YORK

has been furnishing bees and apiarian supplies of every desired kind to bee-keepers of the East. A very liberal discount is now allowed early orders.  
Apiaries, Glen Cove, L. I. - - Catalog free.

## Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line, advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

**WANTED.**—To sell or exchange, white sweet-clover seed for yellow. R. L. SNODGRASS, Gordon, Ks.

**WANTED.**—Seventy-five colonies of bees in Penn. S. L. 136, care of GLEANINGS.

**WANTED.**—To exchange stock of groceries for bees or small homestead. A. E. SHAW, Boscobel, Wis.

**WANTED.**—To exchange 15 ten-frame Dovetailed S supers (new), for 600 T tins. E. EGGMAN, Neillsville, Wis.

**WANTED.**—About 100 colonies of bees from Maryland or Carolina, located near the water. I. J. STRINGHAM, 105 Park Place, New York.

**WANTED.**—To exchange Belgian, French, and Dutch postage stamps for Golden queens. J. VERLINDEN, Wasnes, Belgium.

**WANTED.**—Honey, wax, slumgum, or supplies, in exchange for standard-bred White Wyandottes. H. E. CROWTHER, No. Kingsville, Ohio.

**WANTED.**—Raw furs of all kinds. The highest cash prices paid. Prices on application. Goods held separate if you wish. O. H. MORLEY, Hector, N. Y.

**WANTED.** By a young man, bees in Northern Michigan to handle on shares; can furnish references. R. RASMUSSEN, 191 Dale Ave., Grand Rapids, Mich.

**WANTED.**—To correspond with parties having bees to sell in carload lots for May delivery. Quote prices and give particulars. H. & W. J. MANLEY, Sandusky, Mich.

**WANTED.**—Refuse from the wax-extractor, or slumgum. State quantity and price. OREL L. HERSHISER, 801 Huntington Ave., Buffalo, N. Y.

**WANTED.**—For delivery in Virginia, about fifty colonies of bees in Danzenbaker hives; must be free from disease. Prefer pure Italians. Quote lowest price with full particulars. H. G. L., care of GLEANINGS, Medina, Ohio.

**WANTED.**—Frames of bees and hatching brood; same to be on Hoffman frames, and delivered April 15, 1905. Could use some full colonies in ten-frame Dove-tailed hives if located in Central Ohio. JAMES W. BAIN, Marion, Ohio.

**WANTED.**—Old books on bee culture, especially from foreign countries. Please state titles, authors, year of publication, edition, binding, condition, number of pages, and price wanted. A. L. BOYDEN, Medina, Ohio.

**WANTED.**—Small place in or near town suitable for bee-keeping, in Delaware, Sullivan, or Greene Counties, New York. Give full particulars of what you have to offer, with price, etc. Box S. T. 510, care of Gleanings.

**WANTED.**—Italian bees in the South for early Northern trade. Prefer them from some point near the ocean routes. State what you have to offer, with full particulars. Want also about 200 untested Italian queens. Box 10, care of GLEANINGS, Medina, Ohio.

**WANTED.**—Every bee-keeper who takes GLEANINGS to send in the subscription of one or more friends. For three new subscriptions at \$1.00 each we will give a copy of the 1905 edition of A B C of Bee Culture. Sample copies to show your friends will be sent upon request. THE A. I. ROOT CO., Medina, Ohio.

**WANTED.**—To correspond with any one that has, or can get me, a pair of black foxes alive. Will pay a big price for a pair.

JOHN R. BROWN, Route 2, Fall Creek, Wis.

**WANTED.**—Cleome, buckwheat, sweet clover, borage, mignonette, or alyssum seeds, for gladiola and dahlia bulbs, rudbeckia and aster plants.

MRS. PH. MUELLER, Richmond Hill, N. Y.

## Help Wanted.

**WANTED.**—A young man who understands bee-keeping wishes a position in the Western States. F. W., care of GLEANINGS, Medina, Ohio.

**WANTED.**—A temperate and industrious young man to work on farm and help in bee-yards when necessary. State age, and wages desired. W. J. MANLEY, Sandusky, Mich.

**WANTED.**—Two young men to work in apiary and on farm of 80 acres. I am one of the largest producers of honey in this state. Will give my experience and fair wages. For particulars address HERBERT MANLEY, Route 3, Sandusky, Mich.

**WANTED.**—Competent bee-keeper to work 200 to 300 colonies of bees on shares; good location; two crops of honey in a season. Would hire a good man by the month. Give references, wages expected, and experience, in first letter. W. E. FORBES, Plainwell, Mich.

**WANTED.**—Last year my students helped to secure a harvest of 60,000 lbs. of honey from 296 colonies, spring count. I can take one or two young men, able-bodied, using neither tobacco nor liquor and of good habits (none other need apply). They must be willing to work right along. I will give board and washing; and if student does well and I do well, will give something more. R. F. HOLTERMANN, Brantford, Ont., Can.

## Wanted, Situations.

**WANTED.**—Position as apiarist for season 1906. Best references. M. W. SHEPHERD, Wakeman, O.

**WANTED.**—Position by a young man of good habits, with some bee-keeper; N. Y. State preferred. W. NAAB, 718 Sixth Ave., Brooklyn, N. Y.

**WANTED.**—Position with a bee-keeper; have some experience; would prefer California. AMOS FELEY, Box 452, Palatka, Fla.

**WANTED.**—Young man to take care of an apiary of 300 colonies, and carefully pack supplies for shipping. TRESTER SUPPLY CO., Lincoln, Neb.

**WANTED.**—A bright boy of good habits to make his home with me; must be willing to bach; one who expects to make bee-keeping his lifework preferred. Protestant. State age, and send photo if possible. Reference given and required. JOHN VANDEN BERG, JR., Box 5, Mahwah, N. J.

**WANTED.**—Able-bodied man of good habits who is interested in learning the up-to-date practical work of bee-keeping, from the ground up; where most of the supplies are made at home with modern appliances and good machinery for the work. One who has had some experience with bees preferred, and one who does not object to doing farm work when bees do not require his time. O. H. TOWNSEND, Otsego, Mich.

## For Sale.

**FOR SALE.**—Fifteen Barred Rock eggs for \$1.00; 100 for \$4.00. MRS. W. L. BENNETT, Rt. 1, Crooksville, O.

**FOR SALE.**—Leaming corn, White Wyandottes, Barred Rocks, Queens. Circular. J. F. MICHAEL, Winchester, Ind.



FOR SALE.—Bee-keepers' supplies. Root's goods. Root's prices. Free catalog. F. R. DANIELS, 117 Florence St., Springfield, Mass.

FOR SALE.—Italian queens at any time. Untested, 66 cts.; 50 and over, 10 per cent discount. THOMPSON BROS., Half-way-tree P. O., Jamaica.

FOR SALE.—Best land for bee-keepers, farmers, dairymen. Cheap. Write us. WRIGHT-ROBINSON, Cumberland, Wis.

FOR SALE.—White Wyandotte eggs for setting, \$1.00 per 15; \$4.00 per 100. Order early. CHAS. W. BARNES, 138 N. Pleasant St., Norwalk, O.

FOR SALE.—Forty-six stands of Italian bees in Root eight-frame hives; well painted and in good condition. Write for prices. FRED DONNER, Oakville, Iowa.

FOR SALE.—Or exchange for queens or bees, strawberry, raspberry, and blackberry plants of all leading varieties. JOHN D. ANTRIM, Burlington, N. J.

FOR SALE.—Eggs for hatching from a superior egg-producing strain of S. C. White Leghorns, \$2.00 for 15, \$3.75 for 30, \$10.00 for 100. J. F. RASCH, Marilla, N. Y.

FOR SALE.—P supers for eight-frame Dovetailed hives; well painted, and used one season. Will exchange for two-frame extractor or will buy extractor. A. J. MORSE, Plum, Pa.

FOR SALE.—Cheap, 32 colonies of Italian bees in eight and ten frame and three story hives. Reason for selling, have no time to take proper care of them. N. O. PENNY, Vero, Indian River, Florida.

FOR SALE.—Rosecomb Buff Leghorn eggs. \$2.50 for 15, \$10.00 per 100; largest breeder and finest flock in the world; largest and best layers of all Leghorns. Gold Dust (original). F. BOOMHOWER, Gallupville, N. Y.

FOR SALE.—Root's bee-supplies at factory prices; full colonies Italian bees; queens in season (catalog free); Plymouth Rock chickens and eggs; incubators, brooders, poultry food, etc. H. S. DUBY, St. Anne, Ill.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1906 send your name and address to FRANK S. STEPHENS, Paden City, W. Va. (Root's Goods.)

FOR SALE.—100 colonies of pure Italian bees in eight or ten frame new Dovetailed hives with Hoffman frames; tested queen in each colony. Price \$6.00 each. In lots of ten, \$5.00 each. F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—Trees by mail; one-year-old peach and apple trees, 10c each; \$1.00 per dozen. Guaranteed true to name and free from disease. G. A. HAPER, Batchtown, Ill.

FOR SALE.—Cheap, a place of four acres in one of the best locations for bees in New York State. Have taken 300 lbs. of comb honey from one colony in a season. G. H. ADAMS, Box 976, Schenectady, N. Y.

FOR SALE.—Bees; the right kind, right prices. Safe arrival and satisfaction guaranteed. Ask for illustrated Outfits for Beginners, price list, and our hints on buying bees. MASON SUPPLY CO., Mechanic Fs., Me.

FOR SALE.—500 colonies of bees located in the best sweet-clover belt in the U. S. Will take \$1500 for the outfit. Reason for wanting to sell, too much other business. If I do not sell shall want a good man to run them next season. W. N. CANNON, Greenville, Ala.

FOR SALE.—Weed-process foundation business; a rare chance to buy a foundation business with good growing established trade; price \$800. H. F. HAGEN, Denver, Colo., Or The A. I. Root Company, Medina, Ohio.

FOR SALE.—150 colonies of bees, 30 in Danz. and balance in Root eight-frame Dovetailed hives, at \$3.50 per colony complete. In excellent condition for winter; heavy stores; a great bargain for the price. If interested, write for further particulars. W. M. BAILEY & Co., Spartanburg, S. C.

FOR SALE.—Forty-eight stands of bees in two-story ten-frame L. and Danz. hives, 25 empty hives, and 35 Danz. supers complete. The bees are J. P. Moore's red-clover workers, and are in Hamilton Co., Ind. Write me. J. E. HUGHES, Route 1, Foreston, Minn.

FOR SALE.—Three untested Italian queens for \$1.00 after July 1, if ordered now; warranted pure mated, 10 cts. extra. Satisfaction, or money back. Only 300 at this rate. All you want as long as they last. Orders filled in rotation. Particulars free. S. F. TREGO, Swedona, Ill.

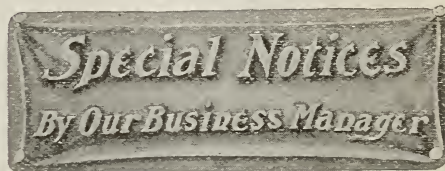
FOR SALE.—200 ten-frame supers; all nailed, and painted one coat, filled with 4x5 sections and full sheets of foundation ready to go in hives. These have never been used and will sell them cheap. Write for price and say how many you want. DANIEL WURTH, 1111 North Smith St., San Antonio, Texas.

FOR SALE.—Fine home in Glenwood, Wis.; one large house and two lots in the city, and two acres with large building 25x100 feet (very suitable for bee-supply factory), 150 colonies of bees all in good condition; one of the best white-clover and basswood localities for bee-keeping. Write for particulars. J. GOBEL, Glenwood, Wis.

## COLLINGDALE APIARY

J. R. Rambo, Collingdale, Delaware Co., Penn.

Breeder of Caucasian and Golden Italian queens; Italians bred from stock received from Swarthmore; Caucasians bred from an imported queen. Queens reared and mated in separate yards, six miles apart. Satisfaction and safe arrival guaranteed. Prices furnished on application. I am booking orders now for the coming season, and will fill same in rotation as received.



### BUCKWHEAT FOR SEED.

We have on hand a good supply of both silverhull and Japanese buckwheat for seed. The silverhull is especially nice seed. We offer either kind at the following prices, including bag to ship in without extra charge, but not prepaid: Peck, 35 cts.; ½ bushel, 65 cts.; bushel, \$1.25. 2 bushels, \$2.25; 10 bushels or more, \$1.00 per bushel. By mail postpaid, 4 oz., 5 cts.; 1 lb., 15 cts.

### BEESWAX MARKET.

Market price of beeswax seems to grow stronger as the season advances. We have secured some very large lots during the past month, but are in the market for more. We are paying 23 cents cash, 30 in trade, for average wax delivered here or at our branch offices. We find it necessary to remind shippers again to be careful to mark shipment with their name so it can be identified on arrival; also to state number of pounds shipped, so we can tell whether any has been lost out on the way.

### SWEET-CLOVER SEED.

We have had an unusual demand for sweet-clover seed, and our large stock of seed is exhausted. If any of our readers have any seed to offer, will you send us a sample, stating how much you have to sell, and the price you ask for it? Until we have a supply to offer we are obliged to withdraw all prices. If we secure a supply so that we can continue to sell at prices given in last issue we shall be pleased to do so; otherwise we will make as low prices as we can.



## Everything for the Bee Keeper

will be found in our Illustrated Catalogue No. 40. It contains a full line of Hives, Supers, Followers, Sections, Section Holders, Frames, Extractors, Smokers, etc. All these and many other essentials are manufactured by us. Everything is guaranteed to be right and of best quality. Our prices are so reasonable that any bee keeper may afford the best supplies. We cannot tell you here of all the good things in this book.

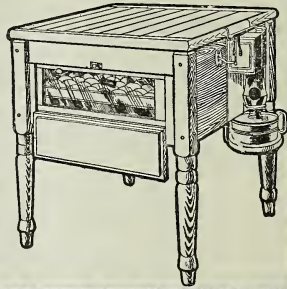
Better send for a copy today. We mail it free, together with a copy of the **Progressive Bee Keeper**, a splendid monthly publication devoted to bee interests. It will help you start right and keep you right after you are started. It is invaluable as an aid to every bee keeper. Ask for the paper and the book.

### We Sell the Best Incubators and Brooders.

Delivered at your station, prices the lowest. Write us at once and save money. Address

**LEAHY MFG. CO., 15 Talmage St., Higginsville, Mo.**

Branches at Omaha, Neb. and East St. Louis, Ill.



## Something New in Honey-jars...

Cook's Square Jar combines a new feature that improves the package and reduces the cost, and is the best and cheapest 1-pound glass package made. Send for circular and full catalog of hives, bees, and useful implements. . .

**J. H. M. COOK, 70 Cortlandt St., New York**

The Oldest Supply-house in the East, and only Reliable goods sold. 10 cents brings sample jar by mail.

## Bee-keepers, Co-operate!

We are Bee-keepers--Organized in the Interest of Fellow Bee-keepers  
(No Matter where They Live)

Membership dues, \$1.00 per year.

Present membership—about 200 bee-keepers.

Our 1906 price list of bee-supplies, and a leaflet containing valuable information, are now ready to mail.

If you wish to assist in co-operation among bee-keepers write us now and send the names and addresses of all your neighbor bee keepers.

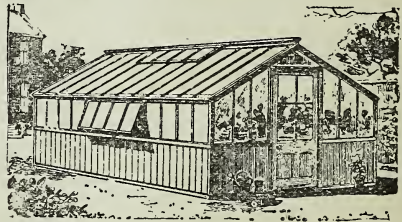
**The St. Croix Valley Honey-producers' Association**

Headquarters Until June 1, 1906

Glenwood, Wisconsin

## PLEASURE AND PROFIT

A Premier Greenhouse will keep you supplied with flowers, fruits, and vegetables all the year round. Saves its cost in a season; gives tone to your residence, and creates a pleasant and profitable hobby.



The illustration shows a Premier Greenhouse—length, 12 feet; width, 8 feet; height, 8 feet. It has double walls, double-strength glass, plant-tables, etc., fitted complete; built in sections, and can be erected in two hours. The price is \$63.00.

George B. Clementson, Esq., Lancaster, Wis., writes: "The Premier Greenhouse is the most attractive proposition for the plant-lover I have ever seen."

Catalog and price list on application. Greenhouses from \$20.00. Conservatories, Garden Frames, Summer Cottages, Auto-houses, Poultry-houses, and Portable Buildings of every description.

**Charles H. Manley,**  
Dept. B C, Premier Manufacturing Works, St. Johns, Mich.

## If You Want the Bee-book

that "covers the whole apicultural field more completely than any other published," send \$1.20 to :: ::

**Prof. A. J. Cook, Claremont, Calif.**

— FOR HIS —

## "Bee-keepers' Guide"

Liberal Discount to the Trade.



## Save Money on Your BEE-SUPPLIES

I ship several cars of  
the celebrated Root  
goods to Kansas City

every year, and save hundreds of dollars for our customers in Kansas, Nebraska, Missouri, etc. Let me save you a few dollars on your goods. Write me at Main Office. Catalog, information, etc., sent free.

**Carl F. Buck**

Augusta      - : -      Kansas

**B**efore you **B**uy your next  
**B**ee-supplies **B**e sure to

send for our new revised catalog. We are the oldest bee-supply house in the West. We understand the needs of both the veteran and the novice in bee-keeping. Our prices are as low as any one's for the same quality. Discount for early orders. We give you quick service and low freight rates. . . .

**Italian Queens and Nuclei**

a specialty. Send for our special queen list "B" for particulars.

**John Nebel & Son Supply Co.**  
High Hill, Montgomery Co., Missouri

## At St. Louis

A complete line of Root's Beekeepers' Supplies. Unexcelled shipping facilities for reaching the Middle West. . . .

ADDRESS

**Blanke & Hauk  
Supply Co.**

202-204 Market Street  
St. Louis, Mo.

ALSO MANUFACTURER OF AND DEALER IN

**Dairymen's  
and Poultrymen's  
Supplies**

Low freight. . . Prompt shipments.  
Factory prices. . . Write for catalog.

**Send Us Your Order**

## THE COLORADO BEE-KEEPER

IS THE man we are interested in, whether he has one swarm or five hundred. If you are that man, we are talking to you.

The goods we sell were made in Ohio. You live in Colorado.

The point is this:

We cut out the distance, and bring your goods home to you—and they are Root's Goods too.

Just now we are interested in getting our catalog into the hands of every bee-keeper. It is YOURS for the asking.

Your order to us, small or large, means prompt service and Root Goods.

**The L. A. Watkins  
Merchandise Company**  
Denver, Colorado

# SUPREME EXCELLENCE

is only another name for OUR Make of

## BEE-KEEPERS' SUPPLIES

---

Have you ever used them? If not, give us a trial order this spring. We will do our best to please you. Our prices are as low as any; and if our goods aren't as we claim you'll not have to pay for them.

~~~~~

We allow a discount of 2 per cent
for orders received in March

~~~~~

**The W. T. Falconer Manufacturing Co.**  
Jamestown, New York

## Dadant's

# Foundation

### It Excels

**Every Inch Equal to Sample**

---

Beauty! Purity! Firmness!  
No sagging; no loss.  
Twenty-eighth Year.  
We Guarantee Satisfaction.  
Wax Worked into Foundation.

~~~~~

Bee-supplies of All Kinds

~~~~~

Beeswax wanted at all times.  
Send for Our 1906 Catalog.

~~~~~

Dadant & Sons, Hamilton, Ill.

Root Goods

for the West

New catalog now ready to mail. Write to-day. Remember I have been in the business over 20 years, and carry the largest stock in the West. Many thousands of dollars' worth of goods now on hand ready for distribution. Why put up with inferior goods when you may as well have the best? They cost you no more. In many cases I can save you money. In all cases I give the most for the money, quality considered.

They are the ROOT GOODS, which I sell here at ROOT FACTORY PRICES and DISCOUNTS. My shipping facilities are unsurpassed anywhere. Practically all points are reached by direct lines, thus insuring the lowest freight rates.

~~~~~

**Jos. Nysewander, Des Moines, Iowa**  
565, 567 West Seventh Street